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AUTHOR Kelly, Diana K.

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ABSTRACT

In 1990, a study was conducted at Fullerton College (FC), a large suburban community college in Southern California, to determine if the use of classroom research by part-time faculty would stimulate greater involvement in learning and increase the course completion rate of adult learners in evening classes. A group of 16 part-time faculty underwent a series of workshops and meetings both before and during the semester in which they conducted classroom research in order to become familiar with research procedures and to learn new skills in the effective use of classroom assessment techniques. At the beginning of the study, participants were asked to provide grade distributions and course withdrawal information for their spring 1990 classes. Similar data was requested for the fall 1990 class at the conclusion of the fall semester. About 4 weeks into the fall 1990 semester, faculty were asked to complete a survey about the differences between their fall 1990 class and the previous semester's class. In addition, a short survey was completed by students in classes in which classroom assessment techniques were used. Analysis of the data revealed that the course completion rate was significantly higher in the semester in which classroom assessment techniques were used. Results of the semester-end student survey indicated that classroom assessment increased students' sense of involvement in the class, reduced anxieties about asking questions, and effectively met the needs of the adult learners. Appendixes provide the original project proposal, memos and agendas, a final participant list, reporting instructions and forms, a summary of quantitative data, notes from classroom research group meetings, faculty comments, a summary of classroom assessment techniques used by faculty, and student survey responses. (JMC)

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# The Effects of Classroom Research by Part-time Faculty upon the Retention of Adult Learners

Diana K. Kelly
Fullerton College

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Practitioner-based Research Report
The National Center on Adult Learning
Empire State College
Saratoga Springs, New York

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Diana K. Kelly
Director, Classroom Research Project
Fullerton College
321 E. Chapman Ave.
Fullerton, Calif. 92621
(714) 992-7278

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## Abstract

This project involved sixteen part-time faculty who used Classroom Assessment techniques with over 400 adult learners during the Fall 1990 semester at Fullerton College, a large suburban community college in Southern California. The purpose of this project was to determine if the use of Classroom Research, developed by K. Patricia Cross and Thomas A. Angelo, would stimulate greater involvement in learning and increase the course completion rate of adult learners in evening classes. In addition, this project was designed to provide a professional growth opportunity for part-time faculty. An important aspect of this project was the fact that it was practitioner-based research. The faculty were researching their own students in their own classes. The project director was a faculty member who also used Classroom Assessment techniques with adult learners. In the same way that scientific research is done by scientists, and historical research is done by historians, meaningful research on the teaching and learning process must be done by those who are currently teaching.

The results of this research project were very positive, both in terms of course completion and involvement in learning. In comparing the course completion rates of this group of faculty teaching the same courses at the same times over two semesters, the course completion rate was significantly higher in the semester in which Classroom Assessment techniques were used. Although this project was originally designed to emphasize course completion, it quickly became apparent that the more important issue was involvement in learning. Results of the semester-end student survey indicated that Classroom Assessment increased the sense of involvement in the class, reduced anxieties about asking questions, and effectively met the needs of the adult learners. In addition, the faculty became involved in finding creative ways to help students learn. It is clear from this project that Classroom Assessment stimulates reflection about learning for both the adult students and their instructors.

## Acknowledgements

I would like to acknowledge the National Center on Adult Learning at Empire State College in Saratoga Springs, New York, for providing the funding for this project, and Director Timothy Lehmann for his support and interest throughout the project. There is no question that becoming a fellow of the National Center on Adult Learning and having the opportunity to exchange ideas with the other fellows had a tremendous positive impact on the direction and outcomes of this project.

The work of K. Patricia Cross and Thomas A. Angelo was essential to the success of this project. Their book, Classroom Assessment Techniques: A Handbook for Faculty was the primary reference used by the Classroom Research Group throughout the project. The U.C. Berkeley Faculty Development Institute on Classroom Research in June, 1990 facilitated by Tom Angelo and Pat Cross provided me with a tremendous amount of information on Classroom Research as well as new skills in the effective use of Classroom Assessment Techniques. The skills and knowledge gained from the four days in Berkeley proved to be invaluable in facilitating this project.

Finally, this project would not have been possible without the enthusiastic participation of the part-time faculty who volunteered their time to be a part of this project. This is by far the most highly motivated group of faculty I have ever had the privilege to be associated with. A very special "thank you" to all of the group members: Bill Baldwin, Math; Nicole Birch, Cosmetology; Darrell Burdette, Construction Management; Louis Dexter, Business Management; Jane Dill, Social Sciences; Pam Fillmore, Nutrition; Bill Harwood, Real Estate; Bill Hayner, Art; Murray Hochman, Electronics; Emmie Lim, ESL; Michele Miller, Writing; Gerald Sheppard, Accounting; Lydia Velez, Spanish; Michelle Wilder, English; Linda Wokurka, Child Development; and Carolyn Wood, Escrow. The contributions of this dedicated group of teachers have made this project rich with useful information for other teachers of adults who plan to use Classroom Assessment in the future.

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# The Effects of Classroom Research by Part-time Faculty upon the Retention of Adult Learners

Diana K. Kelly, Fullerton College

## Introduction

### Problem: Course Completion among Adult Learners in the Community College

In community colleges, students often drop out of classes in the middle of the semester. Because of the low tuition rates, community colleges are often considered "colleges of convenience" in which there is no real academic or financial penalty for leaving a class in mid-semester. For this reason, those who are minimally committed to their education find it easy to drop out of a class. However, despite high motivation, adults are often more likely to drop out of college classes because of their multiple commitments and many time pressures. A variety of outside factors, such as work schedule changes, illness, family responsibilities, or overcommitment, may cause adult learners to drop out in the middle of the semester. Finally, students may decide to drop out of classes simply because they are perceived as being irrelevant to the "real world." When students do not find relevance in their classes, it is likely that they are not actively involved in the learning process.

### Purpose of the Study: Linking Classroom Research with Retention of Adult Learners.

The purpose of this project was to determine if the use of Classroom Research would increase the course completion rates of adult students in the community college evening classes. However, it is possible that the use of Classroom Assessment techniques, developed by K. Patricia Cross and Thomas A. Angelo, may provide the relevance necessary to encourage adults to complete their classes. Through Classroom Assessment, learners are encouraged to evaluate their own learning on a regular basis during the class. These techniques provides feedback to the instructor regarding material which was not clearly understood, and provides an opportunity for students to reflect on what they have learned. Because Classroom Assessment encourages students to reflect on their own goals and on what they are learning, it is likely to engage busy adults in their classes more than traditional lecture methods.

Researchers in adult learning, including Malcolm Knowles, K. Patricia Cross, Stephen Brookfield, Alan Knox and others, have long advocated the principle that adults should be actively involved in their own learning rather than passively receiving information. Although Classroom Research is intended primarily to increase learning, it is also likely to result in the increased retention of adult students, because adults who are more actively involved in their own learning may also be more likely to complete a semester-length class.

This project had two major objectives: 1. To enhance the adult learning experience, as measured by the adults' perceptions of their own learning; and 2. To increase the retention of adult students in evening classes. It is believed that one leads to the other: increased involvement in learning is likely to result in higher course completion rates. This study will address these two objectives by determining if Classroom Research has a positive effect on one or both. The results of this study will be instrumental in future efforts to enhance learning and to increase retention of adults.

## Hypotheses

It was anticipated that the results of this study would indicate a positive relationship between the use of Classroom Research and adult learners' involvement in learning. In addition, because of the greater involvement in learning caused by Classroom Research, it was hypothesized that the percentage of adults who complete the classes in which Classroom Assessment techniques are used would be higher in the Fall semester than in the previous Spring semester.

## Part-time Faculty Involvement: Faculty as Adult Learners

One unique feature of this project is the use of part-time faculty rather than full-time faculty to test the effectiveness of Classroom Research. In California, part-time faculty represent 60 percent of all community college faculty, and part-timers teach about one third of all class hours (California Community Colleges Board of Governors, 1987). Part-time faculty teach the majority of evening classes at Fullerton College, which are made up primarily of adult learners.

In the Fall of 1988 an extensive survey of the Fullerton College part-time faculty was conducted which revealed the following pertinent information (D. Kelly, 1990). First, over 60 percent of the part-time faculty said that they would like to be more involved in the college. Second, part-time faculty expressed a strong interest in faculty development workshops related to instructional techniques, including, "motivational techniques for the classroom," "how to incorporate new teaching methods," "general college teaching techniques," and "increasing student retention." And third, over half of the part-time faculty are committed to teaching and are hoping for full-time college teaching positions.

Part-time faculty at Fullerton College have responded very enthusiastically to workshops on college teaching techniques. The following comment from a workshop evaluation illustrates the typical appreciation for faculty development opportunities: "This is the first time in five years that I felt like someone was really taking an interest in part-timers -- that we really do count. Thanks!" In response to the question "What were the most important things you learned at the workshop?" most of the participants mentioned the importance of sharing ideas with other instructors. One participant responded, "[I learned] what has worked for other instructors. I tried [some of the techniques] the first night, and it was great!" In addition, one participant noted "[I realized] that other instructors had similar problems and frustrations. All along I felt it was my own lack of experience."

Based on the very positive response of part-time faculty to the instructional workshops it was felt that the part-time faculty would also be likely to respond enthusiastically to an invitation to be a part of this project, even without a stipend for participation. Part-time faculty are delighted that opportunities for professional growth are being provided, and that they don't have to pay for them! By participating in workshops and other faculty development activities to increase their instructional skills, they enhance their own professional development and become more marketable for full-time positions. Although the main purpose of this project was to study adult learners who are students in evening classes, a secondary purpose was to observe the growth of the part-time faculty as adult learners as they learned more about teaching through their participation in this project.

## Significance of this Study to Practitioner-Based Research

Research on the effect of Classroom Research on adult learning in the community college is important for three reasons. First, although the adult student population in community colleges continues to grow, many faculty members are unaware of teaching methods which are particularly effective for adult learners (Watkins, 1990). New faculty and part-time faculty may have limited knowledge of effective teaching techniques for adult learners. In addition, faculty members who have been teaching for many years are often hesitant to incorporate new teaching methods. It is more comfortable for many instructors to continue to use a lecture method if this is the method they have always used. However, if the use of Classroom Assessment techniques is shown to result in increased involvement in learning among adult learners, faculty may be more willing to try these new techniques, and the impact on community college teaching could be significant.

Second, community colleges are concerned about student retention. However, if research shows a positive relationship between Classroom Research and student retention, particularly among the growing adult student population, colleges would be likely to strongly encourage faculty to use the technique. In addition, colleges may also encourage more practitioner research to determine other links between teaching methodology and retention of adult students.

Third, the use of Classroom Assessment by faculty is important because it is practitioner-based research. Faculty have the opportunity to research their own students in their own classes. In the same way that scientific research is done by scientists, and historical research is done by historians, meaningful research on the teaching and learning process must be done by those who are actively engaged in teaching. One of the reasons research on higher education is often not used is that it is irrelevant (Layzell, 1990). Community college faculty who are not research-oriented are likely to respond negatively to statistical data produced by a researcher who is not involved in college teaching. However, research done by practitioners is likely to be used by others _because_ of its relevance. For this reason, Classroom Assessment done by faculty in their classrooms, and reported in a way that is relevant to other teachers is likely to have far more impact than traditional research.

## Review of the Literature

### Student Retention: Why do Students Drop Classes, and What Can Colleges Do About It?

_Why do students drop out of college?_ Various research studies have shown that there are several reasons which often account for student departure. Tinto points out that although there is no profile of students who withdraw from college, students are likely to drop out of college for at least one of the following reasons: academic difficulty, inability to adjust to the academic and social life of the college, lack of clear educational goals, lack of commitment to educational goals, incongruence with the other members of the institution, isolation due to lack of interaction, and financial need (Tinto, 1990, 1987). Adults are likely to drop out if they have a low grade point average, if they feel a lack of support for attending college from family and friends, and if they do not have a commitment to earning a degree were likely to drop out of college (Farabaugh-Dorkins, 1991). However, it is likely that many adults attend college for reasons other than earning a degree. For this reason, it may be more important to examine the reasons that adults do not complete their classes.

Why do students drop out of their classes before the end of the semester? In his study of students who withdraw from courses in community colleges, Graham Booth found that students tend to drop out of classes for the following reasons: overcommitment as a result of enrolling in too many classes, low motivation to study, low satisfaction with grades, lack of support from family, low academic expectations, and a desire for a full-time job (Booth, 1987). In previous studies of student retention, the most frequently cited reason for course withdrawal was job conflict, but other reasons were related to instruction: fear of not receiving a passing grade, inadequate prerequisite instruction, and dissatisfaction with the structure or content of the course (Friedlander, 1981). In addition, Booth (1987) found that absenteeism was related to course withdrawal. In a study which examined the reasons for student absenteeism it was found that younger students were more likely to miss classes than older students (McCutcheon, L., 1988). However, the reasons for missing classes were found to be similar for older and younger students, and included the following in order of importance for adults: external responsibilities; low incentive for attendance; fatigue associated with excessive socializing; negative perceptions of professor; irresponsible pursuit of leisure; and potential academic dropout. The implication of these studies of course withdrawal and absenteeism is clear: although adults often drop out of classes due to multiple outside commitments, the motivation to complete the class is also related to instructional aspects of the class.

What can colleges do to increase student retention? In a presentation to the Fullerton College Staff at the beginning of the Fall 1990 semester, Vincent Tinto explained that colleges that have been successful in increasing their retention of students are those which have a strong campus-wide commitment to serving students. Heath (1973) advises, "Be sure all facets of the college present some warmth and interest toward students." Students judge the extent of the college's commitment to students by their day-to-day activities, not by slick brochures or by a well-worded mission statement. In a major project on student retention undertaken by The American College Testing Program and the National Center for Higher Education Management Systems, the most important campus characteristic which contributed to student retention was a caring attitude of faculty and staff, followed by high-quality teaching (Beal & Noel, 1980).

In addition, Tinto notes, "The secret to successful retention lies, as it always has, in the very foundations of the higher educational enterprise . . . an enterprise committed to the education of all, not just some, of its students." He continued, ". . . the secret of effective retention lies in the development of effective educational communities which actively involve students in the learning process" (Tinto, 1990). Previous studies have also shown that student retention is likely to increase when faculty members take a personalized approach to learning, because students are likely to feel more comfortable and more satisfied with their educational environment (Lenning, Sauer, & Beal, 1980).

To summarize, a caring attitude among all faculty and staff and a strong commitment to student learning are likely to increase student retention. Tinto noted that it is ironic that the colleges which have been successful in increasing student retention have not focused on the issue of student retention, but rather on improving the campus climate and on increasing student learning and achievement (1990).

## Increased Student Retention through Involvement in Learning

A 1984 landmark report on higher education, titled Involvement in Learning makes the point that the most important condition necessary to maximize student learning and growth is student involvement. Involvement is defined as, ". . . how much time, energy, and effort students devote to the learning process" (Study Group, 1984). The Study Group offers two principles of educational excellence:

> 1. The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.
>
> 2. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement in learning (Study Group, 1984, p. 19).

Finally, the report has several recommendations which will increase student involvement in learning: using active modes of teaching, requiring students to take greater responsibility for their learning, using learning technologies which increase the amount of personal contact between students and faculty on intellectual issues, and creating learning communities (Study Group, 1984).

Assessment of learning is one way to stimulate greater involvement in learning, according to Krueger and Heisserer (1987). If standards and indicators of student performance were developed at the institution, it would then be possible to measure the degree to which those standards are being met. It is likely that this assessment process would stimulate more active involvement of students, faculty, and support staff in efforts toward a more focused mission: student learning. According to the experiences of Northeast Missouri State University, "Assessment and involvement promote each other. A comprehensive assessment program informs, enlightens, and becomes a basis for action. When put to work, it involves every level and segment of the organization" (Krueger & Heisserer, 1987, p. 56).

Alexander W. Astin has shown through his research on college students that involvement is a key ingredient for academic success. He puts in simply: "Students learn by becoming involved" (Astin, 1985, p.133). To foster involvement, college faculty must focus on what students are actually doing and monitor the involvement of their students. In addition, Astin believes that frequent feedback to students is critically important for increasing student involvement in learning.

Although previous studies by Astin (1985, 1983) and others have found that living on campus increases student involvement, Robert Pace found somewhat different results with his "Quality of Effort" study. Pace found that although students who live on campus generally have a higher level of satisfaction and show greater gains in personal development, residence was neutral, not positive, in determining academic involvement (1984). This would appear to indicate that commuter students in local community colleges and state universities may not be at a disadvantage in terms of involvement in learning after all. If commuter students become involved in their learning, their achievement can be as great or greater than those who live on a college campus.

## Assessing Student Involvement in Learning

Assessing student involvement in learning is usually a fairly casual, unconscious activity on the part of individual instructors. By informally observing the actions of students, instructors often make judgements about the degree to which students in the class are involved in learning. It is easy to assume, for instance, that those who participate frequently in class discussions, and those who visit the instructor during office hours are more involved in their learning than those who do not. But simply counting the number of times students participate in class discussions, or the number of times students visit the instructor outside of class may not take into account those students who are equally involved in their learning, but who are less assertive. For this reason, it is important to take a more systematic outcomes assessment approach to gain a better understanding of the involvement of students in their own learning.

Pace stresses the importance of selecting or developing assessment tools which measure the desired outcome (1985). In addition, K. Patricia Cross believes outcomes assessment should be used to improve the quality of education. If improving the quality of teaching and learning is the purpose of outcomes assessment, faculty should be directly involved in the process, because faculty require useful assessment information which may be directly applied to their own teaching (Cross, 1986; 1989a; 1989b).

How might student involvement in learning be assessed? One assessment tool which may be implemented by individual instructors, and which requires minimal set-up and training is "Classroom Assessment." This set of assessment techniques can be used to measure student involvement in learning, while encouraging students to reflect on their own learning. As Schon points out, reflection has been shown to be a valuable asset later in a career (1988). Through assessment and reflection on learning, the use of Classroom Assessment may also increase involvement in learning.

Classroom Assessment Techniques, developed by K. Patricia Cross and Thomas A. Angelo (1988), provide an opportunity for students to reflect on their own learning. According to Cross and Angelo, Classroom Assessment Techniques are intended to be quick, simple, and easy to use. Faculty who use the Classroom Assessment Techniques give students regular opportunities to provide feedback about their own learning anonymously, in a non-threatening way. Unlike the "informal" methods of instructor observations of in-class attentiveness or participation, Classroom Assessments may be used to assess the learning and the involvement of all students in the class, not just the most assertive (Blumenstyk, G., & Magner, D., 1990). Classroom Assessment techniques are by nature context-specific: instructors can assess the involvement in learning of each individual class, and can address the needs indicated by the feedback of each class (Cross & Angelo, 1988).

For most students, the use of Classroom Assessment Techniques will automatically increase the quantity of feedback they provide to instructors about their learning and about their involvement in learning. Many students have never been asked by the instructor, "What did you learn today?" Because they are usually not asked, students tend not to reflect on their own learning. But if students are asked to reflect on their own learning, it is likely that they will also become more involved in their learning.

The quality of the feedback to assess involvement in learning must be determined by each individual instructor. Data from an in-class classroom assessment may be analyzed to determine the levels of involvement in learning. For instance, how many students appear to have a good grasp of the subject after only one class presentation? How many are asking questions which indicate that although they were listening and participating, they are still having some difficulties? How many students respond with questions or comments which indicate a lack of involvement during the class meeting? And how many students are asking questions which demonstrate a deeper understanding of the subject? In addition, instructors may ask students to anonymously document their own learning processes and their own involvement in learning through a techniques called "Process Self Analysis" (Cross & Angelo, 1988, p. 116). This is likely to lead to greater understanding by students of the effort required to be successful in college classes.

Although Classroom Assessment has been successfully used to enhance instruction in a number of community colleges in California (Blumenstyk & Magner, 1990), none of these projects have reported outcomes specifically on the impact of Classroom Assessment on adult learners.

## Classroom Research: Practitioner-Based Research for Reflective Teaching

The Carnegie Foundation for the Advancement of Teaching has developed a new model for faculty careers in which four types of scholarship are acknowledged and rewarded, including "The Scholarship of Teaching" (Boyer, 1990). When this new model was presented by Boyer in the keynote address of the 1990 meeting of the American Association for Higher Education, the response from conferees was enthusiastic (Mooney, 1990). However, feelings were expressed that it will be difficult to overcome resistance to this model in four-year colleges which place greater emphasis on research. It is also likely that community college faculty would resist this model, but for different reasons. Many community college faculty chose to teach in the community college because their interests lie primarily in teaching. For this reason, it is likely that they would resist the idea of becoming involved in research and other forms of scholarship proposed by the new Carnegie model.

In his keynote address at a conference titled "The New American Scholar," Lee Shulman asked, "Why has the scholarship of teaching been downgraded?" His answer was simple, but the problem is complex. Shulman (1990) stated that because research scholarship is open to peer review it is, therefore, seen as having been legitimately judged by peers to be of good quality. But, unlike research, teaching is typically done in isolation. The idea of having a peer review of teaching quality is seen as an intrusion or, at worst, an infringement on academic freedom. Even in community colleges, where teaching is emphasized, the review of teaching is superficial, and unlikely to have an effect on the quality of instruction (Cohen & Brawer, 1989). Russ Edgerton, President of AAHE, noted that in order for the value of teaching to increase, there must be more professional discourse about teaching among faculty (Rice, et al., 1990). Shulman believes, "If we want a discourse on pedagogy, we have to make the pedagogy worth of conversation" beyond simply talking about teaching techniques in general terms (Watkins, 1990).

One way of accomplishing this is through a program of "Reflective Teaching." Using the theories of Donald Schon (1983, 1988), the West Chester Area School District in Pennsylvania developed a program of faculty development to encourage teachers to think reflectively about what goes on in the classroom. The purpose of the program is to "Provide all teachers with the knowledge and skills to consciously make instructional decisions that are most likely to result in successful learning for students" (Dixon, et al., 1989). Faculty in such a program, which incorporates workshops, discussion groups, and peer mentoring, have abundant opportunities to learn more about "what works" in teaching through reflection and professional discourse about teaching.

Reflective teaching may also be accomplished through Classroom Research. Although most community college faculty resist the idea of conducting research, it is likely that they would be interested in doing research about teaching. Pat Cross recommends that faculty use their own classrooms as laboratories in order to find out if students are learning effectively. Cross notes, "The intellectual challenge of teaching lies in the opportunity for individual teachers to observe the impact of their teaching on their students' learning" (1990, p. 5). Through Classroom Research, faculty can research the learning processes taking place in their own classes in order to provide more effective teaching for their students. But through the process of conducting Classroom Assessments, and analyzing the learning process, faculty will also become more reflective about their teaching.

### Summary

According to the literature, student retention is an important issue in the community college. Although adults may drop out of classes due to a variety of external factors, instructional quality also has an impact on the decision to withdraw from a course. Those who are more involved in their own learning would be more likely to complete their classes. One way of stimulating reflection about learning and greater involvement in learning is through the use of Classroom Assessment. For faculty, the use of Classroom Assessment is also likely to stimulate learning and reflection about their teaching.

## Methodology

### Definition of Terms

The definition of "adult learner" was somewhat problematic. In discussing this with several of the applicants, we decided to define an "adult learner" as one who is probably, but not necessarily, over the age of 25. In addition, "adult learners" are those who are likely to have numerous outside responsibilities, including family responsibilities and/or a full-time job. Under this definition, an eighteen-year-old who does not live with his or her parents, supports himself or herself with a full-time job, and attends college part-time would qualify as an "adult learner." On the other hand, a 27-year old who attends college full-time, lives with parents, and has a part-time job but no pressing outside responsibilities, might not be considered an "adult learner" in the same sense. In other words, age alone was not the determining factor which was used to categorize students as "adult learners."

"Part-time faculty" who participated in the project were faculty who are hired each semester, as needed, to teach no more than 60 percent of a full-time faculty load. They have no permanent contract, and no tenure. Some of the part-time faculty in this project were teaching at several different colleges, and others had full-time jobs in business or full-time teaching positions at institutions other than Fullerton College.

For the purposes of this project, "Student Retention" and "Course Completion" were used synonymously. Because this project was one semester in length, measuring course completion was the only way to determine student retention. In the community colleges, student retention is often measured on a semester-by-semester and course-by-course basis rather than in terms of the number of students who complete degrees. There are two reasons for this. First, many students who plan to transfer to a four-year college simply take the courses they need to transfer, and choose not to earn an Associate of Arts degree. Second, many students come to the community college for reasons other than earning a degree. Some enroll in a certificate program or in a single class for job retraining or upgrading of skills. Others already have college degrees, and decide to take a class which meets their specific career or personal needs. And some simply take a class in a subject that interests them. For this reason, a more accurate measure of student retention in the community college is the course completion rate.

## Population and Sample

### Background on Fullerton College.

Fullerton College is a large suburban community college located in Southern California. Fullerton College employs 300 full-time faculty and nearly 400 part-time faculty, most of whom teach in the evening. The student population is over 20,000, and the median age of the students is 29.

Overall, the rate of course completion at Fullerton College in Fall 1989 was 77 percent (Fullerton College, 1990). The top-ranked college goal in the 1991-1992 Strategic Plan is improving student retention. The Strategic Plan states, "Given the prime importance of human resources to the nation and that student success is essential for the student and the society, the College will intensify efforts to improve student success and retention" (Fullerton College, 1990).

### Selection Process for Participants in the Classroom Research Project.

The original intention was to recruit a group of 20 part-time faculty to participate in this project. Applications to participate in this project were evaluated by the project director with the following three criteria. First, it was important to be sure that they were teaching primarily adults in late afternoon, evening, or Saturday classes. (One exception was made for ESL: although these classes are offered during the day, they are attended primarily by working adults.) Second, it was important that they would be teaching the same class at roughly the same time in the Spring 1990 semester and in the Fall 1990 semester so that retention rates and grade distributions could be compared. Finally, it was important to ascertain that the part-time faculty had strong motivations for being a part of this project. Motivation was determined through the response to the following question on the application form, "Why would you like to participate in this Classroom Research Project?"

A memo was sent to all 400 Fullerton College part-time faculty on March 23, 1990 through campus mail, requesting applications to participate in the Classroom Research Project. The memo explained the project, included a brief description of Classroom Assessment, and noted that applicants should be willing to spend the additional time necessary to incorporate Classroom Assessment techniques into one class in the Fall 1990 semester, including making structural changes in the course if necessary. In addition, those who were interested in being considered as participants had to be available for the initial training workshop on May 5 and the subsequent monthly meetings during the Fall 1990 semester. On April 5, a second memo, a "special invitation to participate," was sent to the homes of all of the part-time faculty who had participated in part-time faculty workshops during the Spring 1990 semester. Finally, on April 23 a third memo, "last chance to apply," was sent to the homes of all part-time faculty.

A total of fifteen part-time faculty were accepted into the project. A letter was sent to each participant, congratulating them on being accepted into this project group and reminding them of the initial training workshop on May 5. Of those accepted into the project, two had to drop out because their schedules were too busy to become involved in the project, and one dropped out because she obtained a full-time teaching position. Of the initial group of twelve, three of the members of the group were unable to attend the initial workshop. It was decided to hold a second workshop in August for these three faculty and for additional faculty who would join the project.

Because it was necessary to recruit several more faculty to reach the desired project group size of 20 part-time faculty, a fourth memo was sent to the homes of the Spring 1990 part-time faculty on June 11, encouraging them to apply to participate in the Classroom Research Project. As a result of this memo, eight more part-time faculty were accepted into the project, bringing the project group to the desired number of twenty. Unfortunately, two of the new members had to drop out of the project, one due to illness, and another due to lack of time.

Characteristics of the Project Group, and Reasons for Participation. In selecting faculty participants, a serious attempt was made to include part-time faculty who taught in a variety of disciplines, both vocational and academic. The final project group of eighteen included faculty from eight of the twelve campus divisions, and sixteen different disciplines,making this a fairly representative group. Ten of the group members were from career-related fields, and eight were from academic (liberal arts) disciplines. Some were experienced in teaching, others were new teachers. But all indicated an enthusiasm for teaching and a willingness to try new techniques that would help their students and make them more effective as teachers of adult learners.

## Procedures

The First Workshop on Classroom Research, May 5, 1990. An all-day Saturday workshop was held for those who had been accepted into the project. Of the twelve remaining participants in the project, three were unable to attend this first workshop, but they attended a similar workshop in August. As a result, a total of nine part-time faculty participated in this initial workshop.

A consultant, Susan Obler, was hired to facilitate this initial workshop. Dr. Susan Obler of Rio Hondo College is currently the Project Director for the Title III Consortium, a five year grant project which involves four community colleges in the Los Angeles/Orange County area: Rio Hondo College, Cerritos College, Mount San Antonio College, and Rancho Santiago College. This consortium project involves outcomes assessment and the training of faculty in the use of Classroom Research techniques.

The three main goals of this workshop were to review the principles of Classroom Research, to assist the participants in designing a Classroom Research Project, and to engage the group in teaching and learning issues, focusing on the use of Classroom

Assessment Techniques to determine learning outcomes. This was a highly interactive workshop in which the participants had the opportunity to use several of the Classroom Assessment Techniques from the book by K. Patricia Cross and Thomas A. Angelo, Classroom Assessment Techniques. A Handbook for Faculty, including "The One Minute Paper," "Focused Listing," and "Goal Ranking." In addition, all participants left this workshop with a plan for an initial Classroom Assessment project for the Fall semester.

The feedback following the workshop was very positive. The participants mentioned the following as "the most important things they learned" at the workshop:

- "methods for evaluating student comprehension."
- "methods for evaluating instructor performance."
- "learning that the students' goals for the class may not be what the instructor has pre-determined their goals to be."
- "information on the profile of the adult learner/evening college student."
- "the importance of student-centered learning."
- "the assessment techniques and how to use them."
- "how to incorporate the assessment techniques to meet student goals and needs."

Training in Classroom Research for the Project Director, June 13-16, 1990. The project director attended the Second Annual U.C. Berkeley Faculty Development Institute Workshop on Classroom Research, and the Classroom Research Conference. Both the intensive three-day workshop and the Saturday conference were instrumental in providing the skills and background necessary to facilitate the Classroom Research Project at Fullerton College. The three-day workshop was facilitated primarily by Thomas Angelo, with opening and closing remarks provided by K. Patricia Cross. In addition, Pat Cross was actively involved as a resource person throughout the workshop, both informally outside of meetings and during meetings.

This was an excellent workshop which provided a tremendous amount of information on Classroom Research as well as new skills in the effective use of Classroom Assessment Techniques. The skills and knowledge gained from the four days in Berkeley proved to be invaluable to this grant project.

Workshop for New Project Group Members, August 11, 1990. A total of eight of the group members attended the all-day Saturday workshop, facilitated by the project director. One of the new group members was unable to attend this workshop, but he was tutored individually by the project director at a later date. This workshop covered the same Classroom Assessment techniques which were provided in the first workshop in May. Feedback from participants of the second workshop was positive, and reflected the some of the same points noted by participants in the May 5 workshop. Those who participated in the August 11 workshop said that the following were "the most important things they learned:"

- "assessment can be non-statistical and effective."
- "(assessment) techniques can vary as to complexity and application."
- "new ways of keeping students' attention -- keep them wanting to come back."
- "techniques and specific ideas: theory (of Classroom Research) and practice."
- "a variety of ways to increase motivation for students to keep them in class."
- "to try and have the student feel that they are real and can contribute to the class."
- "the importance of getting together with other teachers to discuss problems, frustrations, and rewards of teaching."

Final Meeting of Full Project Group before the start of the Fall Semester, August 18, 1990. A Saturday morning meeting was scheduled as a final "tune-up" before the start of the semester. This was an opportunity to briefly review the principles of Classroom Research and to give everyone the opportunity to go through the entire process in a "trial run" before they used an assessment in class. Each faculty participant tried out their first assessment question on the rest of the group, with the group responding as if they were students in the class of the faculty member. This provided the participants with the opportunity to gain hands-on experience in presenting the Classroom Assessment method to a "class," by asking a focused question, tallying the results, and providing the "class" with feedback. Many of the faculty discovered through this practice session that their questions were either too vague or too broad or too complex for students to answer effectively.

The most important benefit which was expressed informally by the members of the group was the "hands-on" approach in which they actually completed all of the steps of a simple Classroom Assessment. In addition, many of the group members mentioned that they learned so much from the other group members. They especially appreciated the opportunity to meet the other members of the group who had been trained in a different initial workshop.

Meetings during the Fall 1990 semester. The Classroom Research Group held four monthly meetings during the Fall 1990 semester on the following Saturday mornings: September 8, September 22, October 27, and December 1. Each meeting was about two and a half hours in length. The purpose of these meetings was to give the participants an opportunity to exchange experiences as they used Classroom Assessment techniques. The faculty in the project requested that one additional meeting be held before the start of the Spring 1991 semester so that they might have a chance to review what had transpired during the Fall semester after having some time away from the classroom over the winter break. This meeting was held on Wednesday,January 16, 1991.

In addition to the group meetings, the project director met individually with all but two participants at the end of the semester. This provided a one-on-one opportunity to discuss individual experiences that may not have been brought up in the group meetings.

Data Gathering: Quantitative Data: Student Retention and Grade Distribution. At the beginning of the project, participants were asked to provide the grade distribution and course withdrawal information for their Spring 1990 classes. This information was later compared with the grade distributions and retention rates for the Fall 1990 classes. Faculty were provided with a survey form which was returned to the project director.

About four weeks into the Fall 1990 semester, faculty were asked to complete a survey about the differences between their Fall 1990 class and the previous semester's class. The following student characteristics were measured through faculty observations: age (older, younger, same as previous semester); gender (more males, more females, same); academic skills (better, worse, same); student motivation (more, less, same); and other differences in the conditions of the class or the student characteristics.

At the end of the Fall 1990 semester, faculty were asked to complete a survey about the grade distribution and course withdrawal for their Fall 1990 class. This survey was identical to the survey used earlier for the Spring 1990 class information.

Qualitative Data: Classroom Assessment Reports. Participants also received specific instructions about how to report back to the project director with the results of their Classroom Assessments. After completing an assessment in their class and tallying the feedback, faculty were asked to answer the following five questions: 1) What did you want to find out?; 2) What question(s) did you ask?; 3) How did you feel about the responses?; 4) How did you respond to the student feedback?; and 5) Did you learn anything new from this process? It was requested that the faculty do at least five assessments over the course of the semester, and write a brief one to two page report about each assessment by answering the above five questions. This provided the faculty with an opportunity to reflect on the results of the assessment, and provided the project director with a summary of each assessment done by all members of the group. Upon the request of the group members, these assessment summaries were also distributed to the group as an idea exchange file.

Qualitative Data: Classroom Research Group Meetings. During the Fall 1990 semester, the participants met with the researcher once each month to discuss the progress of the project and to discuss their experiences in using the Classroom Assessment techniques. Near the end of the semester, the project director met for a one-hour interview with each individual in the project (with the exception of two group members who were unavailable to meet due to illness and limited time). After the end of the semester, a "debriefing session" was held to gain final insights into the overall outcomes of the classes. The comments from these group and individual meetings provided additional insight into the process of using Classroom Assessment techniques over the semester.

Qualitative Data: Student Survey. At the last meeting of the Fall semester, the project group developed a brief survey that they would administer to the students in their classes in which Classroom Assessment techniques were used. This survey included the following six open-ended questions: 1) Did you feel that your individual questions or needs about this class were satisfied?; 2) Did the anonymous feedback help you to learn?; 3) Did the anonymous feedback help you to feel involved in the class?; 4) Which feedback technique did you like the best?; 5) Which feedback technique did you like the least?; and 6) Other comments about the class.

## Data Analysis

Quantitative Data Analysis: Grade Distribution and Student Retention. Descriptive statistics were used to show the percentage of grades and withdrawal rates for the entire group. The Spring 1990 student retention rates and grade distributions were compared with the same classes taught by the same instructors in Fall 1990 to determine the effect of classroom research on student retention for individual faculty members. In addition, the overall student retention change were analyzed for the entire group. T-test analysis was used to analyze retention rates of the two sets of classes, Spring 1990 and Fall 1990.

The information provided regarding the differences in the composition of the classes was used in the analysis of the grade distribution and retention data. Chi square analysis was used to compare the effects of individual variables on student retention and mean grade point averages. Multiple regression analysis was used to analyze some of the independent variables with the dependent variables of student retention and grade distribution.

Qualitative Data Analysis: Classroom Assessment Reports. At the end of the semester, the qualitative data from the Classroom Assessment reports was analyzed by looking at the faculty reports on their experiences in using Classroom Assessment techniques. The following questions were addressed, as appropriate: 1) Which techniques were used, and for what purposes?; 2) Did faculty feel positively or negatively about student responses?; and 3) How did faculty respond to the feedback from their students? In addition, these reports were used to analyze the part-time faculty as adult learners who are learning to use some new teaching strategies.

Qualitative Data Analysis: Classroom Research Group Meetings. Comments from the five group meetings and the individual interviews were sorted into categories for analysis. In addition the comments were analyzed longitudinally to observe the different types of comments as the semester progressed. This provided another type of analysis of the development of faculty as adult learners.

Qualitative data analysis: Student Survey Responses. Student responses were sorted into several categories of answers for each question. Descriptive statistics were used to show the percentage of answers to each of the survey questions.

## Practitioner-based Research Methods

The basic premise of practitioner-based research on teaching and learning is that those who are currently involved in teaching are conducting the research. In this project, the part-time faculty who participated in the Classroom Research group did their own assessments in their own classes in order to learn more about what was working and what was not. They designed their own assessment projects, formulated their own questions, asked students to respond to the questions, tallied the results, provided their own class with feedback about the results of the assessment, and then made decisions about how to best address the problems and questions that had arisen out of the student assessments.

In addition, the project director was also a faculty member who had previously used Classroom Assessment techniques. It was important to the success of the project that the project director had received intensive training the Classroom Assessment through the U.C. Berkeley Faculty Development Institute on Classroom Research and had used the techniques before training others in Classroom Assessment. The "hands-on" background in using Classroom Assessment also became important in studying the faculty as they used the techniques, both in the design of this study and in conducting focus-group style discussions on the experiences of the faculty as the semester progressed.

## Results

### Results of Faculty Surveys: Differences in Spring 1990 and Fall 1990 Classes.

According to faculty observations during the first four weeks of class which were reported in a survey, several differences in the Spring 1990 and Fall 1990 students were noted. Five of the classes were "younger" overall in the Fall semester. Two classes had more males, and two classes had more females in Fall 1990. In the two classes with more males, one class had a female instructor, one a male instructor. In the two classes with more females, one class had a female instructor, one a male instructor. According to faculty perceptions, six of the classes had "better academic skills" and four classes had "worse academic skills in the Fall semester. According to faculty perceptions, four classes were "more motivated" and four were "less motivated in the Fall semester.

In addition, several other differences in the classes were noted by faculty. Two classes were day classes in the Fall 1990 semester rather than evening classes, although the students were predominantly adults. One class had a considerably better classroom location in the Fall: on campus rather than at the high school across the street. One class was considerably more immature in Fall 1990. And one class changed from meeting three hours on two days to meeting four hours on one day per week in the Fall.

## Frequency Distribution and Descriptive Statistics

The following results are based on the surveys completed by the faculty for their own classes. This data comes from sixteen classes which had a total of 414 students in the Spring 1990 semester and 427 students in the Fall 1990 semester. Because two of the faculty members had to drop out of the project in the middle of the semester, there was data for a total of sixteen rather than eighteen classes.

Grade Distribution: College and Classroom Research Classes. Eleven of the sixteen classes were those in which students earned grades from A through F.

In Spring 1990, grades of "A" were earned by 38% of the students in the project group, 37% of students in college evening classes, and 34% of students in the college overall. Grades of "B" were earned by 38% of the students in the project group, 31% of students in college evening classes, and 29% of students in the college overall. Grades of "C" were earned by 19.5% of the students in the project group, 20% of students in college evening classes, and 24% of students in the college overall. Grades of "D" were earned by 1.5% of students in the project group, 5% of students in college evening classes, and 6% of students in the college overall. Grades of "F" were earned by 3% of the students in the project group, 7% of students in college evening classes, and 7% of students in the college overall.

In Fall 1990, grades of "A" were earned by 39% of the students in the project group, 38% of students in college evening classes, and 33% of students in the college overall. Grades of "B" were earned by 36% of the students in the project group, 29% of students in college evening classes, and 30% of students in the college overall. Grades of "C" were earned by 19% of the students in the project group, 20% of students in college evening classes, and 24% of students in the college overall. Grades of "D" were earned by 2% of the students in the project group, 5% of students in college evening classes, and 7% of students in the college overall. Grades of "F" were earned by 3% of the students in the project group, 8% of students in college evening classes, and 8% of students in the college overall.

Grade point averages (GPA) are figured on a four-point scale: 4.0=A, 3.0=B, 2.0=C, and 1.0=D. In Spring 1990 (before using Classroom Assessment) the overall mean GPA for the classes of faculty in this group was 3.07. In the same semester, the mean GPA in all evening classes in the college was 2.84, and the mean GPA of the college overall was 2.76. In Fall 1990 (using Classroom Assessment), the overall mean GPA for the classes of faculty in this group was 3.05. The mean GPA in evening classes was 2.84, and the overall college GPA was 2.72. Although the grade point average of the Classroom Research group was consistently higher than the college evening grade point average and the college grade point average, there was very little difference in grade point average from one semester to the next. The mean GPA of this group went down .02 from Spring 1990 to Fall 1990, the GPA in college evening classes remained the same, and the overall college GPA went down .04.

In looking at the changes in individual classes of the Classroom Research group from Spring 1990 (with no Classroom Assessment) to Fall 1990 (with Classroom Assessment), seven classes had a higher GPA and four had a lower GPA. Of the two graded classes that were "less motivated," one had a higher GPA and one had a lower GPA than the previous semester. Both graded classes that had "poorer academic skills" also had lower GPA's. Of the three graded classes with "younger" students than the previous semester, two had a lower GPA and one had a higher GPA. In the four classes in which the gender of the students shifted from the previous semester, two classes with more female students and one class with more male students had higher GPA's. One class with more male students had a lower GPA. In the two classes in which the gender of the instructor matched the increased gender of the students, both classes had a higher GPA. In the two classes in which the gender of the instructor did not match the increased gender of the students, one class had a higher GPA, and the other had a lower GPA.

Credit/No Credit Distribution: College and Classroom Research Classes. Five of the sixteen classes were "Basic Skills" classes: below college level classes in English and ESL which are offered on a credit/no credit basis rather than for grades. Because they are classes which prepare students for college-level academic work, they do not count toward a four-year college degree.

In the Spring 1990 semester, "Credit" was earned by 71% of the students in the project group classes, 73% of students in college evening classes, and 62% of students in the college overall. In the Fall 1990 semester, "Credit" was earned by 87% of the students in the project group classes, 78% of students in college evening classes, and 69% of students in the college overall. The Classroom Research Group "Credit/No Credit" classes had 16% more receiving "credit" in the Fall semester, while the evening classes showed an increase of 5% in the Fall, and the college overall showed an increase of 7% in the Fall.

It is interesting to note that in the Spring 1990 semester, when all five of the Classroom Research group classes were evening classes, the percentage receiving "credit" was 2% lower than college evening classes, and 9% higher than the college overall. This indicates that the college day classes for "Credit/No Credit" have a considerably lower percentage of students who receive "credit." But in the Fall 1990 semester, when three of the Classroom Research group classes were evening classes and two were day classes, the percentage receiving credit went up dramatically. In theory, because the day classes generally have a lower percentage receiving "credit," the overall percentage of the Classroom Research Group classes should have gone down in the Fall 1990 semester. In Fall 1990, the Classroom Research Group classes for "Credit/No Credit" had a percentage receiving "credit" that was 9% higher than the college evening "Credit/No Credit" classes, and 18% higher than the overall college percentage.

In looking at the changes in individual classes of the Classroom Research group from Spring 1990 (with no Classroom Assessment) to Fall 1990 (with Classroom Assessment), both of the "Credit/No Credit" classes which were "less motivated" in the Fall 1990 semester had significantly higher percentages receiving "credit" than the Spring semester classes. However, both "Credit/No Credit" classes with "poorer academic skills" had lower percentages of students receiving "credit" than Spring 1990 classes. Both "Credit/No Credit" classes with younger students in Fall 1990 had higher percentages receiving "credit" than the comparable Spring 1990 classes.

Course Completion: College and Classroom Research Classes. Of the 414 students who were enrolled in the Spring 1990 classes of the Classroom Research Group, 312 completed the classes, for an overall course completion rate of 75.1%. In the same semester, the college evening class completion rate was 73.8%, and the overall college course completion rate was 75.4%.

In the Fall 1990 semester, 427 students were enrolled in the classes of the Classroom Research Group, and 336 completed their classes for an overall course completion rate of 78.7%. The Fall 1990 course completion rate in college evening classes was 74.1%, and the college course completion rate was 76.2%.

From Spring 1990 to Fall 1990, the completion rate of the Classroom Research Group classes went up 3.6% while the college evening class completion rate went up

.3% and the overall college completion rate went up .8%. In the Spring 1990 semester the Classroom Research Group classes had a completion rate that was 1.3% higher than the completion rate of college evening classes, and .3% lower than the overall college completion rate. But in the Fall 1990 semester, the Classroom Research group classes had a course completion rate that was 4.6% higher than the college evening classes, and 2.5% higher than the overall college rate.

In looking at the changes in individual classes of the Classroom Research group from Spring 1990 (with no Classroom Assessment) to Fall 1990 (with Classroom Assessment), eleven classes had improved course completion rates and five had poorer rates in Fall 1990. Of the four "less motivated" classes in Fall 1990, three had higher retention rates and one had a lower retention rate. The average course completion rate went up 5% for these four classes, from 76% in Spring 1990 to 81% in Fall 1990. Of the four classes with "poorer academic skills" in Fall 1990, three had lower retention rates and one had a higher retention rate. However, the average course completion rate went up 1.5% for these four classes, from 70% in Spring 1990 to 71.5% in Fall 1990. Of the five classes with "younger" students in Fall 1990, two had lower retention rates and three had higher retention rates. Of the two classes with more males in Fall 1990, one had a higher retention rate, and one had a lower retention rate. Both classes with more females in Fall 1990 had a higher retention rate. Both classes in which the gender of the instructor matched the increased gender of the students had a higher retention rate in the Fall 1990 classes. In the two classes in which the gender of the instructor did not match the increased gender of the students, one class had higher retention and one had lower retention in Fall 1990.

## Quantitative Data Analysis

Grade Point Averages. In a T-Test, no significant difference was found in the GPA of the Classroom Research Group classes in Spring 1990 and Fall 1990.

Moderate correlations indicated that GPA was significantly related to the following variables: higher course completion rates (.69); older students (.69); Spring GPA (.63); and faculty perception of "better academic skills" (.56).

In two multiple regressions, the following variables were used to predict the Fall 1990 Grade point average and Change in GPA: change in class size, change in student age, change in student gender, change in academic skills, change in motivation, and change in student retention rate. However, the equations were not significant.

Credit/No Credit. Moderate correlations indicated that receiving "credit" was significantly related to the following variables: higher course completion rates (.69); younger students (.56); and faculty perception of "better academic skills" (.51).

Chi square analysis of the Spring 1990 "credit" grades for the college overall and the Classroom Research group classes indicated no significant relationship between percentage of "credit" grades and the Classroom Research group classes. However, chi square analysis of the Fall 1990 "credit" grades for the college overall and the Classroom Research group classes indicated a significant relationship (probability <.01) between the percentage of "credit" grades given and being in a Classroom Research group class. [Chi square=9.44]

Course Completion Rates. Using a T-test, a significant difference was found between the course completion rates of the Spring 1990 classes and the Fall 1990 classes, . Course completion rates were significantly higher in the Fall 1990 semester. [T=2.35, probability <.05]

Moderate correlations indicated that Fall 1990 course completion was significantly related to the following variables: Fall GPA (.69); faculty perception of "better academic skills" (.66); and meeting more days per week (.56).

In a multiple regression to predict the Fall 1990 course completion rates, the following variables were used: class size, length of class meeting, number of class days per week, and Fall GPA. However, the equation was not significant. In two additional multiple regressions to predict the Fall 1990 course completion rate and the change in the percentage of course completion, the following variables were used: change in class size, change in age, change in gender, change in academic skills, change in motivation, and change in GPA. These equations were also not significant.

### Qualitative Data Analysis

Classroom Assessment Faculty Reports. On average, each faculty member completed about six assessments over the semester. Faculty in this group used twelve of the thirty techniques described in the book, Classroom Assessment Techniques: A Handbook for Faculty by K. Patricia Cross and Thomas A. Angelo (1988). Three additional techniques were developed by faculty, and other techniques were modified and adapted by faculty.

Of the 98 Classroom Assessment reports from faculty, nearly half (44) focused on students' self-assessments of learning, nearly 40 percent (37) assessed the academic skills and intellectual development of students, and less than one fifth (17) focused on student reactions to teachers and teaching methods. This is quite different from most student feedback in the form of course evaluations which focus on the structure of the course and the teaching methods rather than on student learning and student self-assessments of learning.

At the beginning of the semester thirteen of the sixteen faculty used a Background Probe (technique #3) in the form of a "Student Background Survey" in order to find out more about their students, and the background of the students in their subject area. First, most of the students were taking classes for job or career-related reasons, including preparation for licenses. With working adults, this is fairly common. In certain classes, students were taking the class out of personal interest. Some faculty asked for information on students' outside commitments and found that their students had a multitude of outside commitments, including work, family, and college. As a result, the faculty had a greater understanding and respect for the busy lives of their adult students.

Although most of the faculty found that their students were similar to other groups of students in previous classes, there were a few revelations. Some faculty found that their students had more experience in the field than they had previously assumed. As a result, faculty took advantage of the expertise represented in their classes during the semester. Some had students give informal presentations about their work or personal experiences related to the class, and others paired up students who were currently working in the field with those who aspired to careers in the field, to form informal mentoring relationships within the class.

When faculty shared the non-personal background information from the surveys (such as anxieties about the class or previous background in the subject) some faculty were surprised to find that students were very interested in hearing about the others in the class. It was comforting, for instance, to hear that others had similar anxieties, and that the teacher was responsive to those concerns. In one ESL class, the information about the countries of origin of the students in the class started a very productive discussion about "what it's like to move to the United States from another country." Usually students in ESL classes are hesitant to speak, but this discussion provided a wonderful icebreaker in which the students found that they had much in common with the other students in the class, even though they were from other countries. In addition, students were generally impressed that faculty had taken the time to actually read the background surveys and respond to them.

At the beginning of the semester, five faculty used a "Learning Styles Inventory" to assess the preferred learning styles of their students. This was done for two reasons: to make students aware of their own preferred learning styles so that they might strengthen other learning styles, and to make the students and the instructor aware of the diversity of learning styles represented in the classroom. Although the results of each class were different, in general most of the classes included a predominance of students who preferred visual and interactive modes of learning, and in fields related to math there were more print-oriented learners. The basic skills classes included a number of students who preferred learning kinesthetically. As a result of this assessment, faculty made efforts to include a wider variety of activities in order to meet the preferences of the students in the class. This benefited the students, who had opportunities to learn in several different ways.

The "Student Goals Ranking" (technique #15) was used by three faculty: two used it at the beginning of the semester, and one use it at the mid-point in the semester. The two faculty who used this technique at the beginning of the semester hoped to learn more about the goals of their students in order to have a better understanding of their students so that they might help them to reach their goals. After learning that his students' career goals were related to the class, one faculty member made a point of providing many examples from the business world for his students, because he felt that this would provide greater relevance for them. One faculty member used this goal ranking exercise in the middle of the semester so that it might re-motivate students by focusing them on their goals, and relating their own goals to the skills they were learning in the class.

During the semester the most popular technique was "The One Minute Paper" (technique #27). This technique was used in 37 Classroom Assessments by twelve of the sixteen faculty, all with very positive results which helped the instructor to make adjustments in the class. Five of the faculty used "clear/muddy" in ten assessments by asking, usually at the conclusion of the class meeting, and sometimes in the middle of the class meeting, "What is the clearest point for you?" and "What is the muddiest point for you?" Two faculty used a similar pair of questions in three assessments: "What were the most important things you learned today?" and "What is still unclear to you?" Seven faculty used the One Minute Paper by forming specific questions related to the content of the class. Content-specific questions were used nineteen times, and only one assessment was related to the structure of the course rather than a self-assessment of learning. Finally, two faculty devised their own assessment forms: one was called "Minute Notes" and had been developed many years ago; and the other was called "Ah-Ha!" Both were designed to help students to assess their own learning. The results of these assessments were reviewed with the students, usually at the next class meeting but sometimes in the same class meeting. Faculty generally responded by spending more time going over the "muddy" or "unclear" points that were listed by students.

Seven of the faculty designed their own "Evaluation Mini-Forms" and used them in eleven assessments (technique #25). Although the intent of most of these evaluations was to assess certain aspects of the course near the mid-point of the semester, two of the evaluations also asked students to assess their own progress thus far in the semester. Students responded very favorably, and were generally pleased with their progress since the beginning of the semester. Three faculty used both a mid-point evaluation and an end-of-semester evaluation. The remainder of the brief surveys assessed specific aspects of the course, such as the lab, the computer component of the class, and a research project. The results of all of these assessments were positive, because they provided an opportunity for students to give input into various aspects of the course. The information provided by the student feedback was addressed by the faculty in positive ways, by making changes or adjustments in the class as needed.

The "Focused Listing" technique (technique #1) was used to assess student learning a total of eight times by four different faculty. This technique was particularly effective as a memory device. When students had the opportunity to use the focused list more than once during the semester, they consistently developed more complete lists after the first time. Even though the assessment was done anonymously, the faculty felt that when students knew they might be asked to develop a focused list, they were more attentive in class, and they were more diligent about completing reading assignments. One faculty member tried this technique anonymously in one class meeting, and then with names attached in another class meeting. He found that the fact that names were attached didn't make much difference in the quality of the answers, although the lists were somewhat more complete the second time. One faculty member reported positive results from using the focused list as a small group activity. All of the faculty noted that this technique was useful to find out what students were generally not remembering, so that these areas could be reviewed again at the next class meeting.

Four of the faculty used "Exam Evaluations" (technique #29) to obtain feedback from their students after a test. Most faculty found a wide range of preferences in testing methods in their class. However, as the result of student input and testing preferences, each instructor made some modifications were in the following test. One faculty member used this technique twice, and found that the changes he had made after the first test were sufficient: students had no further suggestions after the second test. Two faculty members asked the students how well the smaller quizzes had prepared them for the midterm exam, and both received very positive feedback in which the students said that they felt well-prepared.

Two faculty adapted the "Paper or Project Prospectus" (technique #12) to help students to prepare for a major class project. One was a form for students to complete which was essentially a learning contract. The other was a draft of a presentation proposal which was reviewed by the instructor. In both cases, the technique was effective in helping the students to focus and prepare major projects.

Several of the more complex techniques were each used by one faculty member. All of these techniques were focused on student learning development and student self-assessment of learning. "Do and Say" (technique #7) was successfully used in a writing class to assess students understanding of the structure of writing as well as the content. "Analytic Memos" (technique #9) were used in a business management class in which students were grouped into "committees" to work on analyzing case studies. The "One Sentence Summary" (technique #10) was used in a writing class to summarize a story. Although some students enjoyed the challenge of summarizing the content into one sentence, the story that was used was fairly complex for this technique. "Invented Dialog" (technique #14) was used in small groups in a writing class to analyze the character development in two stories. Four of the six groups developed dialogs that demonstrated a good understanding of the character. Although one group became so involved in arguing about the characters that the dialog was never written, the instructor felt that the assessment project was successful because they had analyzed the characters and understood their development. "Process Self-Analysis" (technique #21) was used in a writing class to assess whether or not students were progressing through the writing processes which were recommended in class. The instructor found variations in the amount of time spent by students in each part of the writing process, and also found that some students had added their own extra steps in the process. The information from this assessment was used to develop a procedural writing outline for students to fill in as they complete their first few writing assignments.

Finally, three other assessment techniques were used by two faculty in the group. One faculty member who prepares students for a state licensing exam concentrated heavily on memory techniques, and used several assessments to develop memorization skills through aural, visual, and print learning modes. Another faculty member used two assessment techniques that he had used in previous years. In one assessment, after learning information about a subject, and after learning something about the background of an upcoming guest speaker, students were asked to prepare questions to be asked of the guest speaker. The other assessment, "Focusing Processing Information," was designed to give students the opportunity to learn about how they focus their attention on a presentation, what distracts them, and how they were able to re-focus their attention. These three examples show the value of developing assessment techniques which meet the specific needs of a particular class in a particular subject.

In summary, the faculty had generally very positive experiences in using the techniques. All but a very few of the techniques produced student feedback that was extremely useful to the faculty. In general, the faculty felt positively about the student responses, both the positive and the negative responses, because the nature of the responses indicated that the students took the Classroom Assessment process seriously. In several of the classes there were a few students who were somewhat immature, and their responses indicated a lack of commitment to the process of providing feedback to the instructor and reflecting on their learning, which was frustrating to those instructors. In all cases, the faculty were very responsive to the feedback provided by the students, making changes and adjustments in the class as needed.

Comments of Faculty Members about Classroom Research. The comments of the group members were followed in three stages: 1) Comments before the start of the project on the application forms for participation in the project; 2) Discussions during the four group meetings during the Fall 1990 semester and the one group meeting after the end of the semester; and 3) Comments of the faculty during individual confidential interviews at the end of the Fall 1990 semester.

1. Comments before the start of the project. The eighteen faculty who became the final project group gave the following responses to the question, "Why would you like to participate in this Classroom Research Project?"

- "As a new instructor, I feel there is much to learn about increasing student participation in class. Student retention was a problem this (Spring) semester. I wish to increase my percentage of student retention in the future. I also want to make my classes a more dynamic, worthwhile experience."

- "(I want to) learn how others work (and how to) teach adult students (who are) many times much older than the instructor. (I) must cram much material into a 16-hour course and therefore knowledge of time-savers would be greatly appreciated."
- "I feel that I have not exhausted my study of teaching. I have attended several workshops and seminars on the subject. I have completed reading The American Community College by Cohen & Brawer. I'm still willing to try anything that works!"
- "I am interested in seeing if using the techniques of 'Classroom Research' would make a difference in the retention of students who work full-time and how these techniques affect their learning."
- "(I'm) always willing to open doors for (the) benefit of school, staff, and students."
- "As a recent college graduate, I really appreciated instructors who took an active interest in their students and would like to do the same for mine. Feedback is beneficial to both students and teacher."
- "I am interested in pursuing any strategies, tactics, or techniques that can be used to assist my students to be more successful in attaining the objectives of the course I am teaching and those associated with their personal agenda."
- "As a novice college instructor, I wish to learn a variety of effective teaching techniques I can incorporate into my daily class sessions. In addition, since most of my students are older adults, my participation in the Classroom Research Project will enable me to more adequately meet the needs of this student population."
- "Because I teach students who generally work full time, I am very interested in any teaching techniques that would maximize the efficiency of time spent in class and encourage a greater sense of self-motivation among these students."
- "Teaching at night I usually have quite a few returning students who are 25 years

of age or older. These students find it very important to know how well they are doing in the course. Being more experienced and perhaps a bit more sophisticated than younger students in some respects, grades themselves don't entirely satisfy this need. Also, I want to improve my student retention."

- "I like to try different methodologies and learning approaches in the classroom. Because this is a combined class, it presents a variety of problems and challenges."
- "Anything to improve education interests me."
- "I am a coordinator for Staff Development at a high school so I'm always interested. (I'm) particularly interested in stopping student drop-out!"
- "This workshop sounds very appealing to me. I have noticed a change in the students attending this class the last three semesters. There are more who seem to 'hang on' even though their hand-in work and quizzes (make it) appear (that) they are not making the effort they should. There is a real mixture in this class with different levels of interest, background, and ability. I believe I am seeing results of students who have not learned proper study habits. I am excited about this project and happy to know there might still be room for me."
- "The project seems as if it will be a way for me to increase my skills."
- "I am interested in participating in this project in order to gain new teaching strategies which will assist the adult student who enrolls in the evening classes I teach. These evening students come with a unique set of experiences which set them apart from other college students; they have worked all day, and often have not been in school for several years, which, for many, produces anxiety over their ability to accomplish their goals. The adults in the classes I teach have acquired important skills and knowledge through work experience. As an educator I desire to provide an environment where adult students can successfully develop new skills and build on the knowledge they already possess

in order to further their education."

- "I spent nine of my ten years in college at night. I was always distressed to see fellow classmates drop. I could look around the room and see familiar faces from other classes that hung in there semester after semester. I also took a good look at the instructor and thought of ways they could have kept their students from dropping. The Classroom Research Project sounds very interesting and something I think I can benefit greatly from. I hope too that I can offer useful suggestions or activities that work for me that may benefit the group and the project as a whole. I have been teaching the same course for three years and change it a little each semester. I am always searching for the most interesting and challenging ways to keep people in class and working. The night students, especially, need extra motivation to keep their interest and energy level high. I look forward to becoming a part of this project in order to increase my effectiveness in the classroom. As I become a more effective instructor, my students can only become more effective writers. This is the whole point of teaching."

To summarize, the majority were interested in becoming involved in this project for three main reasons: 1) to learn new teaching techniques; 2) to have a chance to work with other faculty; and 3) to increase student retention in their classes.

2. Group Meeting Discussions. Of the eighteen faculty who were originally selected for this project, two dropped out which left a final project group of 16. Of the sixteen, two were unable to attend any of the meetings of the Classroom Research Group. After the initial training sessions, the Classroom Research Group held a total of four meetings during the Fall 1990 semester, and one meeting after the end of the Fall semester.

The first meeting was held three weeks into the semester, on September 8, 1990. The purpose of this meeting was to give the members of the Classroom Research

Group an opportunity to share with the others what had transpired thus far with their Classroom Assessment activities. Each group member took a few minutes to describe the type of assessments that had been completed, what was gained from the assessment, and the next steps that would be taken. At this point, all of the faculty had completed at least one assessment, and several faculty had completed three assessments. Most of the faculty in the group had chosen to use the "Student Background Survey" at the beginning of the semester as the first assessment. Others simply asked students to respond to a question about why they were taking the class, what they expected to get from the class, or anxieties they had about the class. A few had their students complete a "Learning Styles Inventory", and two used the goal-ranking exercise at the beginning of the semester.

In general the mood of the group was very positive at this first meeting. They were excited about the initial results of their assessments, and felt that they had already learned more about their students through the initial assessments than they had known before using Classroom Assessment techniques. In addition, they were surprised at the positive response of the students to the assessment and feedback process. The faculty reported that their students were surprised and pleased to be asked, and then very flattered when the feedback was reviewed in class. Although a few of the assessments had not been successful in obtaining good student responses, the group discussed the idea that students need to become more experienced in answering assessment questions. In addition, those who felt that their initial assessments were not successful looked to others in the group for advice or feedback. Most of the group felt that they, too, were learning how to ask good questions that would be easy for students to respond to. All of the group members had additional assessments planned for the near future.

The second meeting was held two weeks later, on September 22, which was five weeks into a sixteen-week semester. The meeting was intended to focus on the discussion of two questions: "What has been the hardest part of using Classroom Assessment techniques so far?;" and "What has been the most successful part of using Classroom Assessment techniques so far?"

However, before this discussion was started, several faculty expressed a desire to talk about the issue of student retention in their classes. There was some frustration expressed that this project had been focusing too heavily on retaining students rather than on student learning development. Generally, the faculty were concerned that an inference would be made that if there were high drop-out rates in some classes, this would show that the Classroom Assessment Techniques were not effective. They felt that, in addition to putting undeserved pressure on the teacher for the retention of students, this would be an incorrect assumption. They believed that Classroom Assessment Techniques had been very effective so far, regardless of student dropouts. They pointed out that students drop out of classes for many reasons which are unrelated to teaching techniques, so it was suggested that we should focus our attention less on student retention and more on the positive results they had been getting from their Classroom Assessments. As the facilitator of the meeting, the project director mentioned that although most of the faculty had initially expressed an interest in this project because they wanted to increase student retention, it was a good idea to focus this project on student learning. In addition, faculty should not feel "guilty" if some students drop out of their classes. The project director borrowed a quote from Vincent Tinto's recent presentation at Fullerton College: "If you focus on student retention, you'll fail. But if you focus on student learning, you are likely to increase student retention."

It was clear that this discussion was a necessary part of the development process of the faculty. They were beginning to re-think the issue of student retention based on their experiences in using Classroom Assessment techniques for five weeks, and their frustrations and concerns needed to be vented. In addition, this discussion was an important learning experience for the project director. As this project evolved, it became obvious that the more interesting information was not about student retention, but about the development of the students and the experiences of the faculty in using the Classroom Assessment techniques. As a result, the project director decided to focus more on the qualitative data from the Classroom Assessment faculty reports and the group meetings, and less on the student retention and grade data, although these data would still be used in the final analysis of the project.

The following observations were offered in response to the question about "the hardest part of using Classroom Assessment": deciding which techniques to use; remembering to allow sufficient time at the end of class to do the assessment; and using assessment techniques with a class in which the students have limited English proficiency.

In response to the question about "the most successful part of using Classroom Assessment," the faculty had many success stories. One faculty member said that as a result of the assessments she became aware that she was talking too fast, so now she has concentrated on slowing down her delivery when she lectures. Another group member used the focused listing technique twice, and found that students did much better the second time. She felt that using this technique let students know the importance of concentrating on reading and on lectures, and remembering the material. Another mentioned that asking students how they were applying what they were learning provided some very good, insightful responses which indicated that students were really reflecting on their learning. Several mentioned again that the biggest success so far has been the positive response of the students. They are happy to be asked, and are very responsive. One noted that the increased focus on student learning is the most important aspect of this project. Two mentioned that other faculty in their departments talked with them about their experiences in using Classroom Assessment techniques. Finally, several mentioned the importance of the group meetings and having the opportunity to talk with other faculty about teaching as the most successful part of the project.

The discussion of this second meeting indicated that despite concerns about student retention issues, the faculty were gaining a deeper understanding of the benefits from using Classroom Assessment techniques, and were continuing to develop as teachers.

The third meeting was held one month later on October 27, 1990. This meeting was slightly after the midpoint in the semester. The purpose of this meeting was to discuss "what has worked so far" in using Classroom Assessment, and to address some of the concerns that had been expressed at the last meeting: planning assessments so they are done regularly, and time constraints in using the techniques.

Time constraints in using Classroom Assessment techniques were discussed first. Several faculty noted that they had so much "material to cover" that they were concerned that using Classroom Assessment would cause them to fall behind. The discussion resulted in several important ideas. First, it is a good idea to prioritize the content of the class, by looking at the skills and concepts students absolutely must have before they leave the class. Faculty asked themselves, "Do I have to assess everything I do?", and decided that it was more important to assess those critical concepts. Second, some faculty felt that it was important pay attention to the needs of the students. If the students do not understand something, it is more important to cover it again than to stick to a pre-planned schedule. Third, if classes are overloaded with "covering material" in preparation for a licensing exam, it is important to spend time preparing students for taking the test. The teacher and students can work together to develop strategies to pass the licensing exam successfully. Finally, faculty noted the importance of making time to do the assessments! Many students have remarked "I've never had to think about what I've just learned!" Asking students to spend a minute or two at the end of the class to reflect on their own learning will probably reinforce their learning and make it more meaningful.

Faculty developed the following suggestions for planning assessments so they are done regularly. First, assessments may be done regularly at the end of the class meeting, and feedback may be planned for the beginning of the next class meeting. Second, if there is limited time, it is best to use the simplest techniques, particularly the "One Minute Paper." Asking for the "clearest" and "muddiest" points is also a good way to spot problem areas quickly. Third, the focused list may be used at the beginning of the class, to check on their understanding of the reading assignment, or at the end of the class, to check their memory of the main points of the class meeting. Fourth, certain assessments can be planned to prepare students for a class activity. For instance, "Do and Say" was used to prepare students to discuss a topic in small groups, and "Directed Paraphrasing" may be used to prepare students for a class activity or to perform a skill.

Finally, in the discussion of "what works" in Classroom Assessment, faculty continued to have many success stories to share with other group members. One faculty member noted that these Classroom Assessment techniques are successful because they represent an attitude of helping students, which is appreciated by the students. Several noted that they are "never satisfied" as teachers because they are always looking for new ways to reach their students. Another faculty member pointed out that because she has been so involved in finding new ways to help her students, the energy level is continuing and there has been no "mid-semester lull" this semester. One group member has noticed that her students are better prepared for class this semester as a result of using Classroom Assessments, and they are attending class more regularly. One faculty member mentioned that he appreciates getting "honest responses" from his students. However, another pointed out that asking students questions raises their expectations for the class, and for this reason it is important to address these expectations. One group member mentioned that the most important part of this project was having a chance to reflect on her own teaching. Finally, the opportunity to learn from the other faculty in the group was mentioned again as one of the greatest benefits of this project. Several mentioned that they have already received many great teaching ideas from members of the group, and looked forward to trying them in their classes this semester and in future semesters.

The fourth meeting took place on December 1, with three weeks remaining in the semester. This was the last meeting during the Fall 1990 semester, but not the last meeting of the group. The first part of this meeting was devoted to developing an end-of-semester feedback questionnaire for students, in order to obtain their reactions to the use of Classroom Assessment Techniques. Following this task, the discussion focused on three questions: 1) "What have you learned as a teacher this semester?;" 2) "What would you recommend to others who would like to try out Classroom Assessment techniques?;" and 3) "Do you have any success stories to share with the group?"

First, faculty responded that they had learned a number of techniques which had helped them in their teaching. One mentioned that Classroom Assessment was particularly effective for basic skills students, because they are basic and provide a mechanism for quick response. Another said that Classroom Assessment can be used to correct students' misconceptions quickly and easily. Two were happy that they took the extra effort to learn how to use the overhead projector for giving feedback to their students. They noted that using the overhead projector focused the attention of the students more than other methods of presentation. In general, several said that through participating in this project and hearing about successful techniques used by other faculty, they had become motivated to try several new teaching techniques that were not directly related to Classroom Assessment.

Several noted that they had grown as teachers in feeling that they had a better understanding of their students through using Classroom Assessments. One noted that using Classroom Assessment stopped her from making assumptions about students based on previous experiences, or based on the comments of one or two students. In addition, because each group is different it was important to learn that techniques that were effective with one group were not necessarily effective with another group, due to differences in maturity level, skill level, or level of interest. Another said that Classroom Assessment caused class time to be used more efficiently, because "you don't have to try to read minds." As a result of using Classroom Assessment, several reported that they became more flexible as teachers and more "learner centered" by finding out whether the students were understanding and learning the material, and making adjustments in their schedules which would accommodate the needs of the students. Because of a greater understanding of their students, several felt that they were able to motivate their students more successfully this semester. In particular, three faculty members told specific success stories about how they were able to work with individuals in their classes in order to help them to successfully complete the class rather than drop out.

The faculty in the group had the following five recommendations to others in using Classroom Assessment techniques. First, start with easy techniques. Second, practice using the technique at home first before trying it with a class. Third, use the techniques that have worked for others and that seem to fit your teaching style. Fourth, don't get discouraged if it doesn't work the first time, because students need practice in using the techniques. Also, some techniques are more effective with some groups (and with some types of assignments) than with others. Fifth, don't take the feedback personally. It is important to develop a thick skin, learn how to deal with negatives, and focus on the needs of the students.

To summarize, at this point in the semester the faculty were far more self-assured in their use of the Classroom Assessment techniques. This became obvious through their comments on "advice to others" which were based on their experiences and their reflections on the feedback process. In addition, the faculty expressed feelings that they had developed as teachers by being more willing to try new teaching techniques, by focusing more on the learners, and by becoming more flexible in their teaching to meet the needs of the students.

The last meeting of the group took place on January 16, 1991 after the end of the Fall semester. The purpose of this meeting was to put their experiences in perspective, after a short amount time had passed since the end of the Fall semester. One faculty member mentioned that he liked the idea that they had been "in charge" of their own classroom processes: they selected the techniques that they felt would be the most effective, and had the freedom to make adjustments in their own classes based on their experiences. This was personally satisfying. One stated that her class had more focus as a result of using Classroom Assessment. Another felt that she had used the class time better as a result of knowing what students really needed. She became more flexible and more willing to adapt the class to students' needs. Another member agreed by saying "I have become more focused on whether or not students are learning. I now have more respect for the students as adult learners, and I have relaxed more to treat students more as partners in learning." Another noted that this type of partnership through the feedback had a unifying effect on his class: the students felt that because the teacher was interested, "we're all in this together."

One group member stated that participating in this project made her more willing to try new techniques that she would not have had the courage to try otherwise. Others noted that it took courage just to ask students for their feedback. It was necessary to develop a thick skin, and not to take the comments personally. Several noted that they found out that they were better teachers than they had realized. One said, "The whole Classroom Research process reinforces that you're a good teacher."

The importance of sharing ideas about teaching with other teachers was noted as critical to the success of their development as teachers. Others agreed that this was an important, if not the most important, aspect of this project. One noted that his participation in this project had opened up conversations about teaching with other faculty in his department. Finally, one of the group members commented on the concept of practitioner-based research. She said, "The practitioner should be the researcher of his or her own classroom. Educational research should start at the classroom level and go up, not the other way around!"

These comments indicated a tremendous amount of growth on the part of the faculty. Before the beginning of the semester when many were concerned about increasing student retention and learning some new teaching techniques. After the end of the semester they were talking about the benefits of focusing on the needs of the learner, and the importance about learning more about teaching from other teachers. In addition, the comments show that they had spent some time reflecting on what had transpired during the fall semester, and generally felt very positively about their experiences.

3. Individual Meetings at the end of the Fall 1990 semester. The project director met with all but two of the sixteen faculty for one hour in individual meetings near the end of the semester. (The two faculty who were unable to meet due to numerous time conflicts corresponded with the project director by mail and telephone.) The purpose of the individual meetings was to give each member of the group an opportunity to talk more in depth about their experiences during the semester than was possible during the group meetings. Four basic questions were addressed during these individual meetings: 1) Did Classroom Research have an impact on your class this semester, positive or negative?; 2) How do you feel about using Classroom Research? Do you plan to use the techniques next semester?; 3) Did using Classroom Assessment techniques help you to develop as a teacher this semester?; and 4) Do

you have any advice for others about using Classroom Assessment Techniques?

First, the members of the group individually agreed that Classroom Assessment techniques had an overwhelmingly positive impact on their class during the Fall 1990 semester. Some mentioned specific techniques that were effective for teaching certain topics within their classes. Several felt that students performed better on tests because they had had an opportunity to think about the topics or questions before through Classroom Assessments. For this reason, Classroom Assessment was determined by some to be a good method to use in reviewing before a major test. In addition, the student feedback narrowed the review time and allowed the instructor to focus on weak areas. Some agreed that certain techniques, particularly focused listing, helped the students to remember the material. Several felt that Classroom Assessment contributed to better attendance and higher rates of student retention because the students were more involved in the class . One stated that the most positive impact of Classroom Assessment was getting questions from students through anonymous cards who would not have otherwise asked. Some believed that Classroom Assessment resulted in greater student-teacher rapport, because the students could see that the teacher really cared about them. This was particularly apparent when the instructor made adjustments in the class which met the needs of the students and made the class better.

Second, most of the faculty individually stated that their experiences with Classroom Assessment were so worthwhile that they planned to use the techniques again in future classes. Even those who had had some less successful experiences with Classroom Assessments planned to try using the techniques again in future classes after hearing the success stories of those in the group. Many said that they wished they had had more time to look through the book and determine ways of incorporating a wider variety of Classroom Assessment techniques into their classes, but they planned to do this in the future. Most said they planned to continue using the same techniques that were successful for them this semester. One person summed up the feelings of many: "I plan to use the techniques again, but will use more techniques. I want to have more focus next semester -- figure out what to do and why. I want to be more specific in my planning for the semester, now that I know what I'm doing!"

Third, most of the faculty felt that using Classroom Assessment techniques and being a part of this project group helped them to develop as teachers. Several felt that they were so busy that they were unable to do as much as they would have liked to do with the Classroom Assessment techniques, so they felt that they did not develop as much as they should have. Several mentioned that they had developed in ways they hadn't expected: they became more flexible in their teaching, and were better at taking criticism. One said that he learned that, "certain things I did didn't come across to students as I had intended. Certain things that I do in class may not be working the way that I think if I don't get feedback."

Several mentioned that they felt more "learner-centered" now, even though they had considered themselves to be learner-centered before they became involved in the project. Some mentioned that they learned the importance of explaining what they would be doing and why, and the importance of providing relevance to adult learners. Quite a few faculty said that they felt they had grown in their understanding of their students. One said, "The major benefit of this project was reflection about teaching. Now I think more about being a teacher and seeing it from the students' perspective." Another said that it was important to learn about the characteristics of adult learners: "It made me re-evaluate my role as a teacher, and made me come down from my 'ivory tower' to look at the students more realistically. For instance, now when students come in late, I'm not judgmental -- I know the obstacles they've had to overcome to get to class."

Several less experienced faculty said that their self-esteem and self-confidence as teachers had increased through the use of Classroom Assessments for two reasons: first, they felt that they really knew what was going on with the students; and second, because the feedback was more positive than they had expected. As a result of their increased self-confidence they were able to relax more, and try some new techniques.

Finally, a number of experienced faculty felt that using Classroom Assessment techniques had brought the challenge back to teaching and made it more interesting than following the same routine. One faculty member summed it up, "I used more new materials and became more creative in my teaching by using a wider variety of activities. This makes the class more interesting and gets students more interested in the class."

Fourth, the faculty had the following advice and caveats for others who would like to try using Classroom Assessment techniques.

- With very short class periods you have to be careful not to spend too much time on the one-minute paper or in going over student feedback.
- Using any new techniques can create conflict in the department, particularly if other faculty are unwilling to learn new techniques or are philosophically opposed to them.
- The book provides a good reference, but it is best to change and adapt the techniques to your own class.
- Although using Classroom Assessment is very positive, there are many other variables that will affect the achievement and retention of students. For this reason, faculty should not feel guilty when students drop out of their class.
- Techniques that work well in one class may not be effective in another class, simply because of differences in the characteristics of the students. Each class is different. Classes with lower maturity levels may not take Classroom Research seriously and may not benefit.

- For students with limited English skills it is important to use short, simple words and no "meta-language" about the techniques. Also, it is best to ask only one question at a time, and repeat the question several times using different words even if the students are nodding that they understand. It is likely that they are being polite, but they may not understand the question fully. Finally, it is important to realize that for students from other cultures, "telling the teacher what to do" may be initially beyond their comprehension. Once they understand how the process works, it is likely that they will be more responsive.
- It is important to remember that students need to learn how to give feedback. Most students have never been asked to give feedback before. For this reason it is a good idea to explain the process completely, and to keep doing it. The student responses get better as they have a chance to practice giving responses.
- It is important to have a good understanding of your students. For instance, It is important to realize that most students, particularly adult learners in evening classes, bring many insecurities with them. In reviewing the feedback it may be a good idea to temper some of the responses and to be sensitive to these insecurities.

In summary, most faculty in the project had very positive experiences in using Classroom Assessment. They felt that it had a positive impact on their classes, and they plan to continue using the techniques in the future. In addition, faculty felt that they had developed into better teachers over the semester. Finally, the comments regarding "advice to others" indicate a deep understanding of Classroom Assessment and of teaching and learning.

Student End-of-Semester Survey. The purpose of this survey was to get the students' reactions to the use of Classroom Assessment techniques in their class. Specifically, it was important to find out if the use of Classroom Assessment helped the students to learn, and if it helped them to become more involved in their

learning. Although the faculty had been receiving feedback from the students all semester which seemed to indicate that they appreciated the opportunity to ask questions or offer opinions anonymously, this survey was intended to get students to evaluate their experiences which were related to the use of Classroom Research.
A total of 248 surveys were completed of the 336 who completed the classes, for a total response rate of 74 percent.

The first question asked students if their "individual questions or needs about this class were satisfied." Of the 248 who returned the surveys, 240 answered this question. Ninety-four percent of those who answered this question, 225 students, responded positively.

Eighteen percent commented positively on the quality of the instructor. Of these, nearly half mentioned that the instructor provided good explanations and answered their questions, and about one third commented that they felt that the instructor really cared about students' learning. One student commented, "Yes. I always felt that I better understood the questions. Specifically, the instructor went personally out of [his/her] way to make sure that not only my, but everyone's questions were thoroughly discussed."

Seventeen percent said that their individual questions were answered either in class or through individual attention provided by the instructor. One student summed it up: "My individual questions and needs were satisfied throughout the semester. The instructor always answered my questions in a clear and concise manner and I learned a lot about the subject due to all the assignments given."

Twelve percent of the students felt that they gained a better understanding of the topic in this class. One student said, "Yes. I came into this class extremely confused. The previous courses were so fast -- too much information in too short a time. But this class helped me to apply and review the information, and now I understand it much better."

Eleven percent felt that their individual goals and needs were met in this class, including preparation for a career, preparation for advanced courses, and learning specific skills. One student responded, "Yes. I now have a very solid background on the concepts of this field that will be the basis for my further study and work." Seven percent said that their skills improved in this class. One student responded enthusiastically, "Yes! I took this class to improve my skills in this subject, and I feel I have improved considerably in this goal."

Seven percent mentioned Classroom Assessment techniques specifically. One students said, "Yes, the teacher asked what areas we were uncertain about and worked extra time on it." Another said, "Yes. I never had a question that didn't get answered. The anonymous feedback was helpful in this area as sometimes you don't know what questions to ask but someone else will."

Six percent commented positively on the overall quality of the class, and two students mentioned a positive classroom environment. Finally, four percent of the students answered "yes" but with reservations. Some felt that they still did not understand certain areas.

Of the fifteen students who answered negatively to the first question, two were somewhat ambivalent, stating that their questions were answered about half the time. Seven complained that there was too much content and too little time. Three students felt that they still did not understand certain areas, two students felt that the application of knowledge was not included, and one wanted to study a topic that was not included in the class.

The second question asked students if the anonymous feedback helped them to learn. Of the 248 who returned surveys, this question was answered by 228 students, and of these 82 percent responded positively.

Thirteen percent said that the anonymous feedback provided them with opportunities for input into the class which allowed them to spend more time on problem areas and influence the structure of the class. One student noted that "it gave the instructor a better idea of what the students needed to focus on and those areas were emphasized which helped me and the class to learn more."

Twelve percent said that they learned from the questions and responses of other students in the class. One student noted, "I think it helped the whole class learn because all of everyone's main points or questions were answered. This also helped people who may not have thought of a particular problem area when they filled out the card."

Twelve percent said that the anonymous feedback provided opportunities for self-improvement and greater understanding of the subject. One student said, "Yes. It allowed me to pinpoint the areas I wasn't clear on, and either study for myself or ask about them in class." Another noted, "Yes, because other people asked questions about things I thought I knew, but found out I was still a little shaky on them."

Nine percent said that the anonymous feedback made them feel free to ask questions that they might have been embarrassed to ask during the class. One student said, "The anonymous feedback did help me to learn. I got to have an answer and no one had to know it was my question. I also got to hear other individuals' questions." Another observed, "I'm not one to speak up with questions immediately. So this gave me a chance to think of some questions and get feedback on them at a later time."

Four percent reported feeling more relaxed, knowing that others had similar problems and questions. One student said, "Yes, the feedback helped me learn because it made me realize that everyone else in the classroom had the same concerns I did, so it helped me relax." Another observed, "Yes. It helps you to get a feeling as to where everyone is in the class."

Four percent said that the Classroom Assessments made them think about the subject and pay closer attention in class. One student responded, "Yes! It let you know if you were paying attention in class." Another noted, "It helped answer small questions you would probably forget to ask if it were not asked to be written down."

Four percent said that it provided a review of the material and made it more memorable. One student felt that "it somewhat strengthened my ability to recall lecture information." Another said, "Not only did it help answer my questions, but it also helped by reviewing subjects I already knew."

Three percent stated that they received answers to their questions because of the anonymous feedback. Three percent felt that they received good constructive criticism through the use of anonymous peer feedback. One percent felt that it provided greater involvement with others in the class. One student noted, "It did help to break the ice among students and helped to develop acquaintances quickly." One percent had positive responses that were unrelated to anonymous feedback. And six percent had positive answers with some reservations: some said that they had received answers to some questions but not others, others felt that the feedback did not need to be anonymous, and others felt that other learning methods were equally valuable. One said, "The class was very interesting to me and the anonymous feedback had no effect one way or another." Another said, "I don't know if it necessarily helped me learn, but it made me think the school cared about whether I learned or not."

Eighteen percent of the answers to this question were negative. Of those, almost half stated that they received no response or unsatisfactory responses to their anonymous feedback. One said, "No. I saw no changes which I wanted. Even though I know my comment was in the minority, the majority won out." Others noted that they preferred to ask questions orally: "If I had any questions, I would ask them in class." Finally, some confusion about the anonymous feedback was indicated by the following few responses: "What feedback?;" "I missed it;" and "I don't remember."

The third question asked students if the anonymous feedback helped them to feel involved in the class. A total of 217 students answered this question, and 31 answers were missing. Of those who responded, 82 percent gave positive answers.

Thirteen percent said that they felt more involved because they believed that their input was important to the class. These responses were indicative of the feelings of importance: "I had a chance to give my input, so I felt a part of this class;" "It made my questions important enough to answer;" "It made me feel that my efforts were acknowledged and my participation appreciated;" and "Yes, to be able to make a change is the utmost involvement in the class."

Eleven percent said that they felt more involved in the class through group interaction. Several students offered examples: "Asking questions and answering in class helped all students to interact and feel more involved;" "The sense of belonging developed quickly. The group was cohesive for the most part. There was little peer pressure, but lots of peer help -- nice!;" "I felt very much part of the class, especially when we interacted with each other on a group project, i.e. to help us learn how to solve problems;" "The whole class would get involved in any questions that the other classmates would have;" and finally, "Not only did the teacher lecture, but by the feedback the class became more relaxed and spontaneous."

Seven percent said that they felt more involved because they were provided with the opportunity to ask questions without embarrassment. One student said, "We can suggest to emphasize certain topics without getting embarrassed." And another observed, "I still feel very uncomfortable talking to others, but it did give me a feeling of involvement."

Seven percent noted that they felt involved because their problems were the same as others in the class. One noted, "The feedback helped me feel involved because I knew that I was not the only one feeling anxious about a particular topic." Another said, "Yes, because sometimes you feel you are the only one that does not know a particular problem."

Six percent said that they believed that the instructor valued input from the students. One student said, "It proved that the teacher is concerned, and it makes the students feel involved. The classes are more active that way, and not boring like the ones I've had before." Another said, "The instructor seemed to be more concerned and worked harder with us on the subject."

Six percent said they felt more involved because they were learning from others in class. One observed, "It was interesting to find out what others thought and it made me think of things I may never have thought of because I wouldn't have come up with so many different ideas on my own." And another said, "Yes, because when your questions are answered you are helping yourself as well as the class."

Five percent said that they felt more involved because they thought more about the subject. These responses indicate these feelings of involvement: "Definitely. I felt like I was the one teaching -- demonstrating in this way, I'm learning and applying the new material;" "It made me think about what is going on in class;" "Yes, it helped me to focus on my goals and what I needed to learn from the class;" and "I felt involved in the class due to anonymous feedback because it caught my attention and kept me concentrating on the topics discussed."

Four percent felt more involved because they were contributing their opinions to the class through the anonymous feedback. Four percent also felt that the anonymous feedback provided the opportunity for greater participation through asking questions. Three percent felt more involved because they had a greater understanding of the subject from the anonymous feedback.

Five percent responded positively, but with some reservations. Most of these responses indicated limited participation in the Classroom Assessment process. One person said, "It didn't really matter." Another said, "Somewhat -- if it was a question that I could fully relate to."

Of the eighteen percent who responded negatively, several indicated that they did not participate in the Classroom Assessment activities, and others indicated some confusion about the process. Several said that they felt involved without the assessments: "I was involved already, so that didn't make me feel more involved;" and "I felt involved in the class from day one. I feel it was because of the teacher, not the anonymous feedback." About one fifth, 8 students, stated that they felt more involved by asking their questions aloud in class, and a few felt that the process was "impersonal" because of its anonymity. One student observed, "Sometimes you feel better if you're alone, but I don't think somebody could feel involved in the class this way." Another stated, "Actually, the feedback did not need to be anonymous -- I would have written the same data with my name on the paper."

The fourth question asked students which feedback technique they liked the best. Of the total surveys, 199 responded to this question, and 49 responses were missing. There was some confusion about this question, because nearly half responded with comments which were not related directly to Classroom Assessment techniques. Some noted that they enjoyed learning from other students through class discussions, small group activities, and class presentations. Others noted the importance of critiques and one-on-one help from the instructor. Some mentioned that they found the application of knowledge particularly helpful. Quite a few said that they enjoyed the variety of teaching and learning activities provided in the class. Although these techniques were not Classroom Assessment techniques, these responses demonstrate the appreciation students have for a responsive instructor who used a variety of methods in order to help students to better understand the material.

About ten percent said that they learned from the in-class reviews of material in response to student feedback. Some preferred oral question-and-answer sessions, others noted that the feedback after tests was very useful, and several mentioned that the teacher took time to explain the material well so that students would understand.

Of the Classroom Assessment Techniques, the one which received the most positive feedback was the "One Minute Paper." Over one third of the students who responded to this question described their positive reactions to the various forms of the one-minute paper technique. However, it is important to note that this technique was also the one used most frequently by the faculty, which could account for the overwhelming response to this particular technique. Many described reasons for preferring anonymous feedback as were mentioned in the other questions: it provides a mechanism for asking questions which is non-threatening, and it provides a way for communicating anonymously to the instructor about areas that were not clearly understood so that more time might be spent on these areas. In addition, students pointed out several other advantages of the one-minute paper: "I liked it when we were asked to write what was difficult or easy about different things we were learning because we spent more time on things that were generally difficult;" "The card asking for five things learned made me search my memory and actually recall what had been discussed in class. With a three-hour/1-day class sometimes it's hard to remember what you did the week before;" and "I liked the one asking what I would like to see more or less of in the classroom."

About five percent mentioned the goal-ranking exercise as their favorite. One student mentioned that the process self-analysis was particularly helpful: "The technique I liked the best was when the class had to monitor the time spent on each stage of an assignment. This helped by showing me which areas I spent the most time on, i.e. where I needed the most work." Several mentioned that the one-sentence summary was difficult, but helpful. One student said, "I liked the one-sentence summary the best. I'm not sure why. Maybe because I had to think really hard to get everything into one sentence." Others mentioned the invented dialog, learning styles inventory, student background survey, and focused listing as their favorite techniques.

Although there was some confusion about this question, all of the responses indicated that students appreciated the efforts of the instructor in using a variety of techniques to help them to learn. The one-minute paper was probably mentioned most frequently because it was used most frequently by the instructors. Of all of the techniques used by the instructors, several were not mentioned explicitly by the students: Analytic Memos, Do and Say analysis, and the Paper or Project Prospectus. It is possible that these were not perceived as "feedback" by the students, but rather as a normal part of the teaching techniques used in the class. In addition, the teacher designed mini-forms, and exam evaluations were not mentioned explicitly, but many students mentioned that the opportunity to provide feedback about the class was very important to them.

The fifth question asked students which feedback technique they liked the least. Of the total surveys, 149 responded to the question and 90 responses were missing. About one fifth of the answers indicated that there was some confusion about the question. In addition, about one fifth gave responses about teaching techniques that were not directly related to Classroom Assessment techniques. Of these, twelve students said that they did not like small group activities and peer evaluations of student work, one complained that there was not enough one-on-one feedback from the instructor, and others had various comments about their classes which were specific to the class. Nearly thirty percent stated that they liked all of the feedback techniques, so they had no "least favorite" technique.

Of those who responded to the question, seventeen percent (25 students) said that they did not like the one-minute paper. Most of these students stated that they preferred speaking directly in class rather than writing on the cards. One student noted, "I had no questions to ask since I asked my questions in front of class during lectures." Another student complained, "I want my opinions and problems addressed individually within the open class, not ignored because I was not in the majority." Others didn't say that they disliked the technique, but rather that they disliked the way it was used. One noted, "Usually there is not enough time to think before you put down you comment or suggestion." Another said, "If I had to choose the one I liked the least it would be including the items "clear" and "unclear" the first week of class. The reason for this is because everything is too new to really know what is clear and what is not." One person said the least favorite technique was listing the most important things learned: "I learned a lot from the instructor and I proved it on my test scores. I shouldn't have to be quizzed anonymously, too."

Six students said that their least favorite techniques were the background probes: the learning styles inventory and student background survey. One student said, "I wasn't particularly interested in the feedback following our first class meeting: the survey results about who had what major, how many years of college, etc." Another said, "To me, the 'how do you learn best' was not that helpful because how I learn depends on the type of information and how it is presented. For example, in this class the teacher was easily accessible so group learning was not needed."

Finally, some students felt that certain techniques were not beneficial. Their comments indicate that they were not entirely clear on the purpose of using the techniques. One said, "I don't think any of the techniques has helped me in an outrageous way, so I think it was sort of a waste of time." Several mentioned that they were confused by the one-sentence summary. This was consistent with the instructor's evaluation of the use of the technique. A few mentioned that they did not like the process self analysis. One student said, "I did not like this one because I knew I was slow, and now I know exactly how slow I really am."

In summary, only thirty percent of those who answered this question, a total of 48 students, had comments which were specifically related to the Classroom Assessment techniques. Of these comments, many did not specifically state why they disliked a particular technique. In addition, several indicated that they did not like the way in which the technique was used. Some indicated some confusion about the purpose of the technique. When they were not clear on why the technique was used, it was typically perceived as "a waste of time." Finally, there were a few who simply did not like anonymous feedback. In general, these appeared to be the few assertive students who usually have their hand raised in class because they want their individual needs met by the instructor. However, nearly thirty percent of those who answered this question also said that they liked all of the feedback techniques that were used in their classes.

The sixth question on the survey asked students for "other comments." Only 45 students chose to answer this question. About 20 percent of the comments were specifically about Classroom Assessment techniques, and they were typical of the comments from the previous questions.

The majority of comments were about other aspects of the class. Over one third of the students who answered this question had praise for their instructors. About 40 percent of the comments were about the class: about half were very positive, and half offered suggestions about the class structure, the classroom, and the textbook. Others had general comments about their learning experiences.

## Discussion

Three questions will be addressed in reviewing the results of the Classroom Research Project: 1) Did student retention increase?; 2) Did student involvement in learning increase?; and 3) What did the faculty learn through their participation? In addition, several unanticipated outcomes and benefits will be reviewed, and recommendations will be offered for future practitioner-based research projects.

### Did student retention increase?

Course completion increased significantly in the Fall 1990 classes. In addition, although the overall course completion rate in the Spring 1990 classes was slightly lower than the college rate, the overall course completion rate in the Fall 1990 classes was significantly higher than the college course completion rate. However, it is important to note that course completion rates did not go up in every class: eleven classes had increased student retention and five classes had lower retention rates. Nevertheless, given the wide range of disciplines represented in this project, it is interesting that the course completion rates went up so quickly and so significantly.

What are the possible causes for the increase in course completion rates? Multiple regressions with numerous variables regarding changes from the Spring 1990 classes to the Fall 1990 classes produced no significant variables. The comments of the students would suggest that they felt that their instructor "really cared" about whether or not they were learning because they asked students for anonymous feedback. Student comments also revealed that eighty-two percent of the survey respondents felt more involved in the class as a result of the use of Classroom Assessment.

It may be premature to make a direct connection between the use of Classroom Assessment and the increase in course completion rates. However, at this point no other variables have been found to have a significant impact on course completion. For this reason, it would be a good idea to replicate this study with another group of faculty in order to test these results further. In addition, this current project group will be followed up at least one more semester to see if the Fall 1990 semester had an unusually high rate of course completion.

Did student involvement in learning increase?

According to the Classroom Research Project faculty reports and the responses on the student surveys, the results have indicated that students are more involved in their learning as a result of the use of the techniques. The student survey responses also indicated that students were impressed that the instructor asked about their learning. Although initially some students were unsure about how to reflect on their own learning because "nobody has ever asked me to do this before," later most enjoyed the process of thinking about their own learning. As a result, the student survey responses generally indicated that they were involved in their learning. Although it is difficult to obtain an accurate measure of student involvement in learning, the results from the student surveys and the feedback from the faculty discussions and reports would seem to indicate that students became more involved in their learning through the use of Classroom Assessment techniques.

### What did faculty learn through their participation?

Faculty participants in the Classroom Research Project at Fullerton College have indicated that they feel that they have focused much more on the learner this semester as a result of using the techniques. In addition to learning how to use Classroom Assessment Techniques as a teaching tool, the faculty have developed over the semester from a concern with simply retaining students to a deeper concern about the whole teaching and learning process. Faculty became interested in the learning styles of their students and in finding out what was getting through and what areas needed more work. Most importantly, they became even more responsive to the learning needs of the students as they discovered the weaker areas. As a result, teaching became more challenging and rewarding to them.

### Unanticipated Outcomes and Benefits

Benefits to Students. Although the reason for using Classroom Assessment techniques is to find out what students are learning, the simple act of asking the students has a tremendous positive impact on the students. Faculty reported that the assessment process made the students feel important, as contributing members of the class. In addition, the feedback from the assessments provided catalysts for some interesting discussions in the next class meeting.

Benefits to Basic Skills Students. It was not anticipated that this project would include basic skills classes in which students are preparing for college level work. This became immediately apparent when faculty were first asked to report the grades from the Spring 1990 classes, and several had no grades, only "Credit" and "No Credit." It was decided to analyze these classes separately from the graded classes rather than make assumptions by trying to convert "Credit/No Credit" grades into regular grades. It was fortunate that this modification in analysis was made, because this provided a way to analyze underprepared groups of students separately. Although in graded classes the grade average did not change significantly from one semester to the next, the change in the percentage of students receiving grades of "Credit" increased dramatically. To be certain that this was not an abnormal semester it would be necessary to track the basic skills classes of these faculty for several semesters. However, it is interesting to see that the Fall 1990 classes in which Classroom Assessment were used had such a high success rate in comparison to the previous semester and in comparison to the college "Credit" rate. This would seem to indicate that Classroom Assessment is particularly powerful with adult learners who are underprepared for college-level work.

Faculty as Adult Learners: Learning from the Group. Although the purpose of the use of Classroom Assessment is to provide teachers with a way of finding out whether or not students are learning in a specific class, and to reflect on their own teaching, one of the most important benefits mentioned over and over by participants in the group was the participation in the group meetings. Members of the group felt as if they were breaking new ground in trying out some of these techniques. They wanted to talk to the others about what was going on in their classes in order to share the excitement of what they were learning about their students, and to ask for advice when things didn't go smoothly. They wanted to learn from the others about what had worked in their classes, so that they might try these techniques in their own classes. The group meetings were one important key to success for this project. Although it is possible for faculty to use Classroom Assessment techniques on their own, the experiences became more meaningful because they were shared with others who are also using Classroom Assessment techniques. From the most experienced teachers to the novices, all gained new insights from the group, and all made valuable contributions to the group.

Gaining Confidence as Teachers. From the most experienced faculty to the newer faculty, all agreed that using Classroom Assessment made them feel that they knew they were "doing the right thing" as teachers. The positive responses of the students, and the reinforcement and support provided by other group members in the meetings provided faculty with the feeling that they were good teachers.

Part-time Faculty Involvement. The members of the group expressed that they felt honored to have been selected for this project, mainly because it is a project which will have a national impact through the National Center on Adult Learning. Many have said "Thank you for doing something for part-time faculty!" So often part-time faculty are overlooked by colleges, and as a result they feel like the step-children of the academic world. This project is one that tells the part-time faculty participants, "You are important to the college!"

However, there are several pitfalls associated with involving part-time faculty in a project of this nature. First, they are extremely hard to reach. It took four mailings (one to campus mailboxes and three to homes) to get a group of eighteen participants out of a total part-time faculty of 400. Although many part-time faculty are interested in participating in faculty development activities such as this one, the reality is that their time is very limited. This group was very motivated and simply decided to make a commitment to participate.

Second, it can be difficult to keep part-time faculty involved in a long-term project. Two of the original eighteen decided to drop out of the project in the middle of the semester when they realized that they simply didn't have the time to incorporate the Classroom Assessment techniques into their classes. Two of the remaining sixteen group members continued using Classroom Assessment techniques throughout the semester, although they never came to a meeting because their schedules were not compatible with the meeting time which was best for the rest of the group. And over the course of the semester, several others talked individually with the project director about dropping out of the group due to time limitations and many pressing commitments. However in these cases the project director was successful in keeping them in the group by trying to work out individual solutions to writing reports on each assessment and attending all of the group meetings.

Tom Angelo Campus Presentation on Classroom Assessment. As a result of the work of this project group, interest in Classroom Assessment increased around the campus. For this reason, Tom Angelo was contacted and asked to give two presentations on Classroom Assessment Techniques to the entire college faculty: one in a 3-hour morning all-campus meeting for full-time faculty, and the other in a 2-hour evening all-campus meeting for part-time faculty. A total of approximately 500 faculty participated in the two presentations which were held in January, just before the start of the Spring 1991 semester. The immediate faculty feedback on both presentations was extremely positive, and the informal feedback throughout the Spring semester indicated that many faculty had been using Classroom Assessment techniques in their classes, and were pleased with the results.

Continued Involvement in Classroom Assessment. The project director applied for and received another grant which will provide funding for the Classroom Research Project to continue at Fullerton College. The grant for the 1991/92 year was awarded by the California Community Colleges Fund for Instructional Improvement (FII). It is very likely that this initial NCAL project in Classroom Research was instrumental in influencing the award of this second grant to continue the project.

The 1991/92 FII Grant project will be very similar to the project funded by NCAL. The focus will be on adult learners, and the target group will be faculty who teach evening classes and who represent a wide range of disciplines. However, this time both full-time faculty and part-time faculty who teach adult learners in evening classes will be invited to participate. In addition, this project has several additional faculty development components built into it. Faculty in the project will be paired up to visit one anothers' classes so that they might see how Classroom Assessment Techniques are used in other disciplines. In addition to receiving training in the use of Classroom Assessment techniques, faculty in the project will participate in several faculty development workshops which address needs expressed by the previous project group, including the following topics: Adult Learners, Underprepared Students, Learning Styles, and Interactive Classroom techniques. Finally, each group member will be expected to facilitate a brief workshop for faculty in his or her own department, so that other faculty might learn more about using Classroom Assessment techniques in their own discipline.

## Process of Practitioner Based Research

There is no question that the teaching background and experiences that the faculty brought to the project and the sharing of experiences among the group members during the project caused the resulting data to be much richer than it would have been through traditional research methods. As the project progressed, it took on a life of its own, and by taking advantage of the ideas of the group as the project went along, the results became much more interesting. Although the original plans for this project called for a primarily quantitative analysis of student retention data and grade distributions, it quickly became apparent that the more interesting data was the qualitative data: the results of the assessments provided by the faculty, the faculty discussions in the group meetings, and the student survey at the end of the semester.

Although most faculty had entered the project because they were interested in improving the retention of students in their classes, at one group meeting about four weeks into the semester, the faculty vented their frustrations with what they perceived to be too much emphasis on student retention rather than the involvement of students and the process of learning that was going on through the Classroom Assessments. As a result, the focus of the project changed and became much better by concentrating more on the teaching and learning process.

In doing practitioner-based research on teaching, the key lesson is to be open to opportunities to shift the focus of the research as needed. Practitioners who conduct research in their own classrooms are experts in teaching. If they notice interesting developments in the process of doing the research, it is important to take advantage of them rather than sticking rigidly to the original research plan.

## Conclusion: A Key Lesson for Improved Practice with Adult Learners

The most important lesson learned through this project is best stated by Vincent Tinto (1990): "If you focus on student retention, you'll fail. But if you focus on student learning, you are likely to increase student retention." In this project, the focus started on student retention and evolved to focus more on student learning, thanks to the insight of the members of the Classroom Research group and the flexibility of practitioner-based research. Faculty showed the students that they really cared about whether or not they were learning through the use of Classroom Assessment Techniques. Students indicated that they became more involved in their learning, and at the end of the semester there were higher course completion rates.

In this project, the use of Classroom Assessment Techniques has been an effective tool in the assessment of student learning which also increased students' involvement in learning. In addition, the use of Classroom Assessment appears to have an overall positive effect on the student retention rate. It is hoped that the success of this project will result in more evening and part-time faculty being trained in the use of Classroom Research in order to increase the retention of the important evening adult student population.

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# Appendix

## The Effects of Classroom Research by Part-Time Faculty upon the Retention of Adult Learners

Diana K. Kelly
Fullerton College

June, 1991

# National Center on Adult Learning
# "Linking Assessment with Learning"
# Practitioner-based Research Proposal

**Diana K. Kelly**
**Fullerton College, Fullerton, California**

## 1. Specific Research Project: Classroom Research for Adult Learners

I plan to research the impact of Classroom Research on adult learning and on the retention of adult students in evening classes at a large suburban community college. This project will have a direct effect on twenty part-time faculty members who will use Classroom Research techniques in their classes and approximately 800 adult students (40 students per class).

Classroom Research is a teaching technique advocated by K. Patricia Cross in which students are encouraged to evaluate their own learning during each class meeting. This technique provides feedback to the instructor regarding material which was not clearly understood, and provides an opportunity for students to reflect on what they have learned. The use of Classroom Research in classes for adults is likely to result in two positive outcomes: enhanced perception of learning at the end of a semester class, and a higher class completion rate among adult students.

Researchers in adult learning, including Malcolm Knowles, K. Patricia Cross, Stephen Brookfield, Alan Knox and others, have long advocated the principle that adults should be actively involved in their own learning rather than passively receiving information. Although Classroom Research is intended primarily to increase learning, it is also likely to result in the increased retention of adult students, because adults who are more actively involved in their own learning may also be more likely to complete a semester-length class.

## 2. The significance of this project to practitioner research.

Research on the effect of Classroom Research on adult learning in the community college is important for two reasons. First, although the adult student population in community colleges continues to grow, many faculty members are unaware of teaching methods which are particularly effective for adult learners. Moreover, faculty members who have been teaching for many years are often hesitant to incorporate new teaching methods. However, if a research study shows that Classroom Research produces enhanced adult learning, the impact on community college teaching could be significant. Faculty members who choose to use Classroom Research would also increase their knowledge about their own teaching through practitioner-based research.

Second, community colleges are concerned about student retention. Retention rates are significantly lower in public community colleges than in other colleges, partly because of the open-door policy, and partly because comunity colleges are often considered by students to be colleges of minimal commitment. Adults in evening classes are even more likely than younger students to drop out of a class due to the pressing commitments of work and family. However, if research shows a positive relationship between Classroom Research and student retention, particularly among the growing adult student population, colleges would be likely to strongly encourage faculty to use the technique. In addition, colleges may also encourage more practitioner research to determine other links between teaching methodology and retention of adult students.

## 3. Project Description

**A. Objectives.** This project has two major objectives: 1. To enhance the adult learning experience, as measured by the adults' perceptions of their own learning; and 2. To increase the retention of adult students in evening classes. This study will address these two objectives by determining if Classroom Research has a positive effect on one or both. The results of this study will be instrumental in future efforts to enhance learning and to increase retention of adults.

**B. Methodology and Data to be collected.** This project will be completed at Fullerton College, a large suburban community college in Southern California which has a student population of more than 20,000, and a median student age of 29. Fullerton College employs 300 full-time faculty and nearly 400 part-time faculty, most of whom teach in the evening.

First, in the spring of 1990 a group of 20 part-time faculty will be selected to participate in this project. The participants will be part-time faculty who teach at least one evening class, and who will be teaching the same evening class in the Spring and Fall semesters, 1990. In addition, a serious attempt will be made to include part-time faculty who teach in a variety of disciplines, both vocational and academic. The faculty participants will be oriented to the research project and to the methods used in Classroom Research. During the Fall 1990 semester, faculty participants will utilize Classroom Research techniques in one evening class per participant.

A research instrument will be developed to measure the perception of learning among adult evening students. This survey will be administered twice: first to adults completing classes in Spring 1990 who did not experience Classroom Research techniques, then to adults who completed classes in Fall 1990 in which Classroom Research techniques were used. The survey will be administered by the same group of faculty to adult students in the same courses both semesters.

Results of the survey will be analyzed by comparing the two surveys for each faculty member for both semesters. In addition to an analysis of individual faculty members, the full data will be tabulated for each semester and results will be compared for both semesters.

Data will also be gathered from each faculty participant regarding the grade distribution and number of withdrawals from the class for both semesters. Again, the data will be compared for individual faculty members and will be tabulated for the entire group for each semester.

Descriptive statistics will be used to show the percentage of answers to survey questions and the percentage of grades and withdrawal rates for each faculty member and then for the entire group. T-test analysis will then be used to compare the Spring 1990 results with the Fall 1990 results for individual faculty members and for the entire group.

**C. Anticipated results.** It is anticipated that the results of this study will indicate a positive relationship between the use of Classroom Research and adult learners' perceptions of their own learning. Adult learners who evaluate their own learning throughout the Fall semester class will have more positive perceptions of their learning than adults who did not experience Classroom Research in the Spring semester class. In addition, because of the greater involvement in learning caused by Classroom Research, it likely that the percentage of adults who complete the classes will be higher in the Fall semester than in the Spring semester.

### D. Timetable

March, 1990: A notice will be sent to all part-time faculty who teach evening classes about the research project. Applications to participate will be accepted through the end of March.

April, 1990: Twenty part-time faculty members will be selected to participate in the research study. An introductory three-hour workshop will be scheduled to explain the project.

May, 1990: One all-day Saturday workshop on Classroom Research will be scheduled with an outside consultant. A research instrument will be developed to measure the perception of learning among the adults in the classes of the participants. The survey will be administered by the faculty participants to one evening class per participant at the end of the Spring semester. Data will be gathered from each participant regarding the grade distribution and the number of withdrawals.

August, 1990: Before the start of the Fall semester, participants will attend a three-hour evening workshop to review the methodology of the research project and Classroom Research. Surveys and grade distribution data from the Spring semester will be tabulated.

September-November, 1990: A three-hour meeting will be held at least once each month to discuss the use of classroom research, and to share any problems which have been encountered and any new ideas which have evolved. More meetings of participants may be scheduled as needed.

December, 1990: The same survey which was administered at the end of the Spring semester will be administered again by the faculty participants at the end of the Fall semester.

January, 1991: Surveys will be tabulated. Data will be gathered from each participant regarding grade distribution and the number of withdrawals in their evening class.

February-April, 1991: Data will be analyzed, and a final report on the research project will be written. The final report will be submitted to NCAL by May 1, 1991.

## 4. Background of Researcher: Diana K. Kelly

I believe I am well-qualified to coordinate and complete this research study for four reasons. First, I have been teaching full-time at Fullerton College since 1980, so I feel that I have had sufficient experience in teaching adults to carry out a project on adult learners. Second, as coordinator of Faculty and Staff Development for Fullerton College, I have gained experience in organizing faculty development projects which will be invaluable in carrying out this study.

Third, as a graduate student at the Claremont Graduate School, I have written two extensive literature reviews on adult learners and one on faculty development. "Adult Learners: Implications for Faculty" was the basis for a California State Instructional Improvement Grant for the production of two videotapes on adult learners. These videotapes are currently being used at Fullerton College and other California Community Colleges to acquaint faculty with the differences between adults and younger students and to demonstrate teaching methods which are effective for adults. A major part of "A Corporate Human Resources Approach to Faculty Development" was published in the August 1988 issue of educational HORIZONS. These two papers and a third paper, "Marketing Higher Education to Adults," are a part of the ERIC microfiche collection.

Finally, because I have completed extensive coursework in quantitative analysis at the Claremont Graduate School, I am very comfortable with research methodology and statistical analysis. I have completed two research projects with the UCLA Freshman data which utilized multiple regression analysis, factor analysis, and discriminant analysis. In my own original research for my Master's thesis I conducted an extensive survey of the part-time faculty at Fullerton College and had a return rate of over 84 percent. I used chi square analysis, t-tests, factor analysis, and multiple regression analysis in analyzing the data from this study.

I am interested in continuing my research in adult learning because adults now comprise the majority of students in the community colleges. It is critically important that research is done which will provide a greater service and enhanced learning opportunities for adult learners.

5 . **Budget: $4860.** The budget includes the following expenses:

- Two classes of released time to coordinate and complete this study: one Fall 1990, and one Spring 1990. ($1680 per class for part-time replacement=$3360)
- Fee for outside consultant to conduct a one day workshop on Classroom Research. ($1000)
- Resource materials on Classroom Research for faculty participants. ($500)

## Addendum to Practitioner-Based Research Proposal

# The Effect of the Use of Classroom Research by Evening Part-time Faculty on the Retention of Adult Evening Community College Students

**Diana K. Kelly**
**Fullerton College, Fullerton, California**

**March 8, 1990**

### Summary of the Research Project

The purpose of this project is to determine if the use of classroom research techniques increases the retention of adult students in the community college evening classes. Despite high motivation, adults are often more likely to drop out of college classes because of their multiple commitments and many time pressures. However, it is possible that the use of Classroom Research techniques, advocated by K. Patricia Cross, may provide the relevance necessary to encourage adults to complete their classes. Because Classroom Research methods encourage students to reflect on their own goals and on what they are learning, it is likely to engage busy adults in their classes more than traditional lecture methods. One unique feature of this project is the use of part-time faculty rather than full-time faculty to test the effectiveness of Classroom Research. A group of twenty part-time faculty from Fullerton College, a large suburban community college in Southern California, will be selected and trained in Classroom Research methods in an all-day workshop in Spring, 1990. They will then use the Classroom Research methods in one "pilot" class during the Fall, 1990 semester. Ideally, this class should be a class which was also taught by the same instructor during the previous semester. Faculty members will be able to compare their retention rates from one semester to the next to determine if the use of Classroom Research had an effect on student retention. In addition, qualitative Classroom Research data will be gathered regularly and reported by the faculty participants in several workshops during the semester. At the end of the semester, a debriefing session will be held with all faculty participants to gain their insights into the use of Classroom Research techniques with adult students. It is hoped that the success of this project will result in more evening and part-time faculty being trained in the use of Classroom Research in order to increase the retention of the important evening adult student population.

### Part-time Faculty Workshop Participation at Fullerton College

In the Fall of 1988 I conducted an extensive survey of the Fullerton College part-time faculty which revealed the following pertinent information. First, over 60 percent of the part-time faculty said that they would like to be more involved in the college. Second, part-time faculty expressed a strong interest in faculty development workshops related to instructional techniques, including, "motivational techniques for the classroom," "how to incorporate new teaching methods," "general college teaching techniques," and "increasing student retention." And third, over half of the part-time faculty are committed to teaching and are hoping for full-time college teaching positions.

In my position as Staff Development Coordinator I offered a workshop for part-time faculty entitled "The Three Hour Evening: How to Get it Started and Keep it Going." The workshop was held on a Thursday afternoon from 3-6 p.m. in January, 1990 before the start of the Spring Semester. Although no stipends were paid to participants, attendance was not required, and the only notification about the workshop was one flier before the Christmas holidays, over 30 part-time faculty came to the workshop. The overwhelming response both during the workshop and in the evaluation after the workshop was one of appreciation. One comment from the evaluation stated, "This is the first time in five years that I felt like someone was really taking an interest in part-timers -- that we really do count. Thanks!" In response to the question "What were the most important things you learned at the workshop?" most of the participants mentioned the importance of sharing ideas with other instructors. One participant responded, "[I learned] what has worked for other instructors. I tried [some of the techniques] the first night, and it was great!" In addition, one participant noted "[I realized] that other instructors had similar problems and frustrations. All along I felt it was my own lack of experience."

During the Spring 1990 semester I will be continuing to facilitate a series of workshops for part-time faculty on a variety of instructional topics: Motivational and Retaining Underprepared Students; How to Teach Adult Learners; Incorporating New Teaching Methods for Different Learning Styles; Enhancing Instruction with Visual Materials. In addition, I am now planning to offer a special Saturday workshop on "Classroom Research" for those who will be participating in this research project.

I believe that the part-time faculty are likely to respond enthusiastically to an invitation to be a part of this project. Although it might be nice to pay a stipend for their participation, based on my experiences with part-time faculty, I don't think it will be necessary. Part-time faculty are delighted that workshops are being provided, and that _they_ don't have to pay for them! By participating in workshops to increase their instructional skills, they are enhancing their own professional development and are, as a result, becoming more marketable for full-time positions.

## Selection of Part-Time Faculty Participants

In March an announcement and application form will be sent about this project to all 400 part-time faculty at Fullerton College to generate a pool of potential participants. Those who are interested in being considered as participants will need to meet several qualifications: availability for the initial Spring workshop and the subsequent monthly meetings during the

Fall 1990 semester; willingness spend the additional time necessary to incorporate the Classroom Research techniques into one class in the Fall 1990 semester, including making structural changes in the course if necessary, and tabulating Classroom Research data from their own class during the semester; and the likelyhood of teaching the same class in the Fall 1990 semester and the Spring 1990 semester. Participants will be selected and notified by mid-April. The training workshop will be held on Saturday, May 5.

### Classroom Research Techniques to be used in this Research Project:

Twenty part-time faculty will be trained in the use of several Classroom Research techniques outlined by Pat Cross and Tom Angelo in their book, Classroom Assessment Techniques: A Handbook for Faculty. The following five classroom assessment techniques for individuals will be included in the workshop for part-time faculty: one-sentence main idea, one-minute paper, list of key concepts, clearest point/muddiest point, and one concept/one question. The faculty participants will be encouraged to try all of the techniques which are likely to be effective in their subject area. In addition, they will be encouraged to try the techniques in small groups when appropriate.

### Data to be Gathered and Analyzed

The quantitative data from this project will be fairly straightforward. At the beginning of the semester the researcher will gather some basic quantitative information about the class and about the instructor, including: the field of study, the number of students, the demographic characteristics of the students (short questionnaire handed to students on first evening), the demographic characteristics of the faculty (gathered before the start of the semester), and the size of the class. The Spring 1990 student retention rates will be compared with the Fall 1990 for the twenty participating evening part-time faculty members to determine the effect of classroom research on student retention for individual faculty members. The distribution of grades will also be compared for each instructor from Spring 1990 to Fall 1990. In addition, the overall student retention change will be analyzed for the entire group. Chi sqare analysis will be used to compare the effects of individual variables, and t-tests will be used to analyze retention rates. By using multiple regression analysis, some of the above independent variables may also be analyzed with regard to the dependent variable of student retention. [As a researcher, I have used SPSSX extensively, and have access to the Computing Center at The Claremont Graduate School for research purposes.]

Each faculty participant will gather the anonymous qualitative Classroom Research data once per week because most evening classes only meet once per week. Faculty members will be responsible for tabulating their own data and reporting it back to students at the beginning of the next class meeting. In addition, faculty members will be provided with forms by the researcher to report back the overall results of each week's classroom research activity. In the case of the longer forms of classroom research, such as the one-minute paragraph or the small group activities, the faculty member will summarize their overall impressions of the responses of the class. Faculty participants will also be invited to report any particularly interesting or unusual comments offered by the adult students. In addition, faculty members will be asked to write a one-sentence response to that week's classroom research.

Each week, the researcher will receive the twenty brief reports on the Classroom Research results, and will enter the results immediately throughout the semester. At the end of the semester, the data will be ready to tabulate. Although it is difficult to anticipate the actual categories of qualitative data prior to this project, here are a few possibilities: how many students understood/didn't understand the main concepts?; how many different concepts were understood/non understood; how many different questions were raised by students?; and did faculty feel positively/negatively about student responses? It is likely that this information would be reported as qualitative data (direct quotes from faculty and students), but it could also be analyzed quantitatively by comparing some of these variables with the independent variables mentioned: field of study, size of class, instructor characteristics, student characteristics; etc.

During the semester, the participants will meet with the researcher once each month to discuss the progress of the project and to discuss their experiences in using the Classroom Research techniques. At the end of the semester, a debriefing will be held to gain final insights into the overall outcomes of the classes. These discussions and comments will be summarized and included in the final report.

One change from the original proposal should be noted here: it is unlikely to be necessary to develop a research instrument for measuring the "perception of learning" among adults in the Fall, 1990 semester, because this will be monitored throughout the semester. Because there would be no basis for comparison, it would not be necessary to administer such a survey at the end of the Spring, 1990 semester.

## Anticipated Deadline for Final Report

It is anticipated that the data from this report will be completely entered by the end of the Fall, 1990 semester. During the Spring, 1991 semester it is likely to take several months, from January until the end of May, to analyze the completed data, and to write the final report. For this reason it would probably be wise to move the deadline stated in the original proposal from May 1, 1991 to June 1, 1991 (in time for the conference at Empire State in June).

## Budget Information

- Consultant fee: $1000. I plan to use one of the facilitators who were involved in the Classroom Research Project at the College of Marin in Northern California. The cost of airfare, and one night hotel is likely to be approximately $500. A typical consultant fee for an all-day workshop is $500. [If the consultant costs run less than $1000, I would like to supplement the cost of my attendance at the U.C. Berkeley Workshop and Conference on Classroom Research June 13-16, which I had planned to pay out of pocket. The fee for the workshop and conference is $495 and includes registration, hotel, and meals. In addition, the airfare to San Francisco is likely to be around $200.]

- Materials: $500. This is to cover the costs of any printed materials about Classroom Research which may be useful to participants and duplication costs for surveys and data gathering.

NORTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
1000 N. Lemon Street, Fullerton, California 92634 - (714) 871-4030
INTRADISTRICT CORRESPONDENCE

To: All Part-Time Faculty
From: Diana Kelly, Staff Development Coordinator [992-7278 for more information]
Date: March 23, 1990
Subject: Classroom Research Project

Here is an exciting staff development opportunity for part-time faculty!

- Would you like to increase the amount of learning that takes place in your classes?
- Would you like to increase involvement and participation in your classes?
- Would you like to retain more students to the end of the semester?

Fullerton College has recently received a grant to train a select group of part-time faculty in a teaching technique called "Classroom Research." This is a teaching technique in which students are encouraged to evaluate their own learning on a regular basis, and then to share their evaluations anonymously with the teacher. The use of this technique in other colleges has resulted in increased student learning, increased involvement in learning, and increased student retention.

Only twenty part-time faculty will be selected to participate in this project. The following criteria will be used to select participants:

- Must teach an evening class at Fullerton College which consists of primarily adult students (over age 25).
- Must be teaching the same class in Spring 1990 as you will be teaching in Fall, 1990. [If you are uncertain about your Fall 1990 schedule at Fullerton College, you may want to check with your Division Dean about the likelyhood of teaching the same class in the Fall.]
- Should have a desire to learn a new teaching method, and to make minor adjustments in one course in order to use this new teaching method during the Fall 1990 semester.
- Should be available for the following meetings:
    - Saturday, May 5, 9 a.m.-3 p.m.: training session in the use of "Classroom Research."
    - Saturday, August 18, 9 a.m.-noon: meeting of participants prior to start of Fall semester.
    - Meetings of all participants once per month throughout Fall semester (a total of four meetings at times to be determined by the group).

Participants will receive training in "Classroom Research" from a noted expert in the field. Dr. Susan Obler, Director of the Teaching-Learning Center at Rio Hondo College, has worked extensively with Pat Cross and Tom Angelo, originators of the "Classroom Research" techniques. She is currently the Coordinator of the Title III Consortium on Classroom Research which involves ten community colleges in training full-time faculty in the use of Classroom Research methods.

Participants will receive a complimentary copy of the landmark book about classroom research by K. Patricia Cross and Thomas A. Angelo, entitled "Classroom Assessment Techniques, A Handbook for Faculty." This book outlines thirty specific techniques which may be used to assess student learning in your classes. It provides very practical methods for incorporating new teaching methods which will increase student learning into classes in any discipline.

If you would like to participate in this exciting pilot project, please complete the attached form and return through the campus mail to Diana Kelly.[If you have questions, please call 992-7278.]

## Application to Participate in Fullerton College Part-Time Faculty "Classroom Research Project"

[Please type your answers or use a wordprocessor on separate paper.]

1. Name______________________________

2. Home address______________________________________________

__________________________________________________________

3. Home telephone_________________________

4. Other phone where you may be reached____________________________

5. Division/Department at Fullerton College__________________________

6. Subject area you teach__________________________________________

7. Specific Fullerton College Class you would like to use for the Classroom Research Project:

__________________________________________________________

8. Are the students in the class primarily adults age 25 and older?_______

9. When does this class meet this semester? (days/times)

__________________________________________________________

10. Are you likely to be teaching the same class next semester? (If possible, please check with your division dean if this is uncertain.)

__________________________________________________________

11. Is this class likely to be offered at a similar time next semester? (If possible, please check with your division dean if this is uncertain)

__________________________________________________________

12. Why would you like to participate in this Classroom Research Project? [feel free to use additional paper as needed]

__________________________________________________________

__________________________________________________________

__________________________________________________________

**Please return this form to Diana Kelly through Campus Mail as soon as possible. Those received first will be given higher priority for selection.**

**[Application Deadline: Wednesday, May 2.]**
[All applicants will be notified as soon as possible regarding participation status prior to May 5.]

NORTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
1000 N. Lemon Street, Fullerton, California 92634 - (714) 871-4030

INTRADISTRICT CORRESPONDENCE

To: Participants **in Part-time Faculty** Professional Development Workshops

From: Diana Kelly, Staff Development Coordinator

Date: April 5, 1990

Subject: Classroom Research Project for Part-Time Faculty

I would like to extend a special invitation to you to participate in the Classroom Research Project for Part-Time Faculty. Because of your participation in at least one Part-Time Faculty Development Workshop this semester, I feel that you may be interested in this very unique opportunity for faculty development.

I'm looking for 20 Part-Time faculty members who are interested in learning a new teaching technique called "Classroom Research," which will add vitality to classes through increased student participation. This technique is also very likely to increase student retention.

The Classroom Research Project for Part-Time Faculty is a pilot project which is being funded through a grant from the National Center on Adult Learning at Empire State College in New York. I should note that this is an opportunity to be involved in the first project on Classroom Research for Part-Time Faculty in the country! This project will receive national attention at a conference of the National Center on Adult Learning in June, 1991. It is also likely to be included in a forthcoming book about Part-Time Faculty which will be published in 1992. With this kind of publicity, it is very likely that this project will have a positive impact on faculty development opportunities specifically for part-time faculty in many other colleges across the country.

I've enclosed a copy of the description of the Classroom Research Project, and an application form. Please don't hesitate to call me if you have any questions about your participation in this project (992-7278). If you'd like to participate, please fill in the form and return it to me as soon as possible (no later than May 2). And mark your calender for the May 5 workshop!

NORTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
1000 N. Lemon Street, Fullerton, California 92634 - (714) 871-4030

INTRADISTRICT CORRESPONDENCE

To: Part-time Faculty
From: Diana Kelly, Staff Development Coordinator
Date: April 23, 1990
Subject: **LAST CHANCE TO APPLY:** Classroom Research Project for Part-Time Faculty

A month ago I sent out a flier to all part-time faculty which described the Classroom Research Project and encouraged participation in the project. The response has been excellent! So far part-time faculty from Fine Arts, Humanities, Social Sciences, Communications, Business, and Technical Education will be participating in the Classroom Research Project. A few slots are still open, so I wanted to provide one final opportunity for you to apply to participate in this very exciting professional development project. For this reason, the deadline for application has been extended to May 2. I've attached a copy of the Classroom Research Project application form. If you'd like to participate, please fill in the form and return it to me as soon as possible (no later than May 2).

**Here's a brief description of the Classroom Research Project:**

1. Purpose of the project: to increase retention of adult college students in evening classes through the use of "Classroom Research" teaching techniques in which students assess their own learning on a regular basis, and share their self-evaluations anonymously with the instructor. The use of "Classroom Research" in other colleges has resulted in increased student learning, more involvement in learning, and increased student retention.
2. Selection Process: Only 20 part-time faculty will be selected to participate, using these criteria:
   - Must teach an evening class at Fullerton College of primarily adult students (over age 25).
   - Should be teaching the same class in Spring 1990 as you will be teaching in Fall, 1990.
   - Should be interested in learning and using a new teaching technique.
3. Workshop on "Classroom Research." Training in the use of various Classroom Research teaching techniques will be provided to participants in a workshop on Saturday, May 5 from 9 a.m. to 3 p.m. (Lunch will be provided.) The workshop will be conducted by a noted expert in the field of Classroom Research, Dr. Susan Obler, Director of the Teaching-Learning Center at Rio Hondo College. Each participant will receive a complimentary copy of the book upon which these techniques are based: Classroom Assessment Techniques: A Handbook for Faculty by K. Patricia Cross and Thomas Angelo.
4. Follow-up meeting. One additional meeting of the group will be held just prior to the start of the Fall semester on Saturday, August 18 from 9:00 a.m. to noon. This will be an opportunity for participants to discuss and try out the classroom research techniques before classes begin.
5. During the semester. Participants will use the Classroom Research techniques in one evening class. Meetings of all participants will be held periodically through the Fall semester: possibly once per month or less, depending on the availability and desires of the participants

The Classroom Research Project for Part-Time Faculty is a pilot project which is being funded through a grant from the National Center on Adult Learning at Empire State College in New York. I should note that this is an opportunity to be involved in the first project on Classroom Research for Part-Time Faculty in the country! This project will receive national attention at a conference of the National Center on Adult Learning in June, 1991. It is also likely to be included in a forthcoming book about Part-Time Faculty which will be published in 1992. With this kind of publicity, it is very likely that this project will have a positive impact on faculty development for part-time faculty in many other colleges across the country.

Please don't hesitate to call me if you have any questions about your participation. (992-7278).

## Questions about Participation in the Classroom Research Project

The following questions have been raised by part-time faculty about the Classroom Research Project. Because you may have some of the same questions, I thought I would share them with you.

1. "I'm not a researcher. I'm a teacher! Why should I be interested in Classroom Research?"
   "Classroom Research" is a series of teaching techniques which may be used in the classroom to enhance learning. The only actual research is the feedback that you receive from your students. This will give you a chance to find out, "How much of what I am teaching is being learned by my students?" [See an example of Classroom Research under #5 below.]
2. "It looks like an interesting project, but it might take too much of my time."
   - This project has been designed to give part-time faculty an opportunity to learn a new teaching technique in the shortest amount of time possible through the one-day workshop on May 5.
   - The brief meeting before the start of the Fall semester on August 18 is really a final opportunity to discuss the Classroom Research techniques before classes begin.
   - The number and length of additional meetings during the fall semester will be determined by the group. However, one of the benefits most often noted by participants of other part-time workshops is the chance to exchange ideas and teaching methods with other faculty members.
   - Using the Classroom Teaching methods in class will involve approximately five minutes at the end of the class meeting, and generally a short amount of time to quickly go through the responses before the next class meeting. [See #5 below.]
3. "I want to participate, but I'm not sure that I'll be teaching the same class next semester."
   You may want to check with your division dean. If you will be teaching a similar class with adult students at a similar time, please fill out the application form with this information. I may need to call you for more information, but if the conditions are fairly similar, it will work.
4. "I want to participate, but I'm not available for the May 5 workshop."
   Because grant money is paying for the consultant, May 5 is the only day that the consultant will be doing the workshop. However, if you are really interested anyway, fill out the application form, and note this on the form. It is possible that I could set up an individual session with you (or with any others who are also unavailable on May 5) to prepare you for doing Classroom Research in the Fall.
5. How does Classroom Research work?
   One simple example of a "Classroom Research" technique is "One Concept, One Question."
   - At the end of the class meeting, you ask your students to write on one side of an 3x5 index card "What was the most important (or most interesting) thing you learned today?" On the other side, ask them to write "What new question(s) do you have?" Responses should be anonymous. This takes about five minutes, and gives students a chance to think about what they have learned.
   - These responses are then reviewed by the instructor before the next class meeting so that the concepts and questions may be addressed briefly at the beginning of the next class meeting.
   - By talking about several of the "important concepts" that were learned, students can hear about the interesting things that some of the other students are learning. By talking about several of the "questions," students will feel better knowing that they were not the only ones who "didn't get it."
   - This feedback process also assists the instructor in finding out what areas may need further explanation if many students raise the same question.
6. How do students like Classroom Research?
   In the college classes in which Classroom Research techniques have been used, students have respondec very positively in several ways:
   - They really appreciate being asked about what they are learning in an informal, non-threatening way before a formal evaluation, such as an exam or a graded assignment.
   - Many students who might feel reluctant to ask a question during class feel that they have an opportunity to ask that question anonymously in writing.
   - They feel that the instructor really cares about whether or not they are actually learning.
   - They become more involved in their own learning, because they have to think about what they are learning in order to respond to the Classroom Research questions.
   - Because they are more involved in their own learning, they are less likely to drop out of classes.

NORTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
1000 N. Lemon Street, Fullerton, California 92634 - (714) 871-4030

INTRADISTRICT CORRESPONDENCE

To:

From: Diana Kelly, Staff Development Coordinator

Date: April 20, 1990

Subject: Classroom Research Project for Part-Time Faculty

Congratulations! You have been selected to participate in the Classroom Research Project for Part-Time Faculty. I have attached an article to give you a brief overview of some of the ideas of Classroom Research. At the workshop on May 5, you'll be receiving a complimentary copy of the book mentioned in this article, Classroom Assessment Techniques: A Handbook for Faculty.

The Classroom Research Project for Part-Time Faculty is a pilot project which is being funded through a grant from the National Center on Adult Learning at Empire State College in New York. I should note that this is the first project on Classroom Research for Part-Time Faculty in the country! This project will receive national attention at a conference of the National Center on Adult Learning in June, 1991. With this kind of publicity, it is very likely that this project will have a positive impact on faculty development opportunities specifically for part-time faculty in many other colleges across the country.

I am very excited about getting started with this project, and I'm happy that you will be a part of it. I'll look forward to seeing you at the workshop on May 5 from 9:00 a.m. to 3:00 p.m. in the Fullerton College Faculty Lounge (next to the men's gym).

NORTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
1000 N. Lemon Street, Fullerton, California 92634 - (714) 992-7000

INTRADISTRICT CORRESPONDENCE

To: Part-Time Faculty
From: Diana Kelly
Date: June 11, 1990
Subject: New Opportunity to participate in The Classroom Research Project

Here is a new opportunity for you to learn new teaching techniques and increase student retention!

If you'd like to join an enthusiastic group of part-time faculty, and learn some practical teaching techniques that you can use in the Fall semester, please complete the enclosed form and send it back to me as soon as possib

The Classroom Research Project will be starting this Fall, 1990 at Fullerton College. Although the group of participants has already been selected, the response at our May 5 training session was so exciting that I decide open up a few more spaces for additional participants.

What is Classroom Research? I've enclosed a one-page description of the techniques of Classroom Research your information. These techniques may be learned by those who are new to teaching as well as those who ar experienced college faculty. Classroom Research techniques may be used in any discipline: vocational or aca If you have any additional questions, feel free to call me and leave a message (992-7278) -- I'll return your call as soon as possible. All participants in the Classroom Research Project will receive a complimentary copy of th book: "Classroom Assessment Techniques."

**What does participating in this Classroom Research Project involve?**

- First, there will be a training session on Saturday, August 11 from 9:00 a.m. to 3:00 p.m. in the Faculty Lounge to train those who are selected for the project in the use of Classroom Research techniques. Lunch will be provided, and all participants will receive materials in addition to the book mentioned above.
- Second, there will be a meeting of all participants in the Classroom Research Project on Saturday, August 18 from 9:00 a.m. to noon in the Faculty Lounge. The purpose of this meeting is to have a chance to discuss the classroom research techniques that will be used by each individual participant when the Fall semester starts on August 20. In addition, practical hands-on experience will be provided in the use of the techniques.
- Third, participants in the project will use the Classroom Research techniques during the Fall semester.
- Fourth, there will be periodic meetings (depending on the availability of participants) during the semester to give everyone additional support, and an opportunity to discuss any problems or ideas that have emerged through using Classroom Research.

The Classroom Research Project is one of only six grants on adult learning being funded by the National Cente Adult Learning at Empire State College in New York State. I should mention that this is the first project on Classroom Research for Part-Time Faculty in the country! In addition, this Fullerton College Classroom Resear Project will receive national attention at a conference of the National Center on Adult Learning in June, 1991.

I hope you can join us! Please complete the enclosed form and return to me as soon as possible.

If you have any questions, please call 992-7278 and leave a message. I'll return your call as soon as possible.

## Application to Participate in
## Fullerton College Part-Time Faculty
## "Classroom Research Project"

[Please type your answers or use a wordprocessor on separate paper.]

1. Name______________________________
2. Home address (street)______________________________
   (city, zip code)______________________________
3. Home Telephone:______________________
4. Other phone where you may be reached______________________
5. Division/Department at Fullerton College______________________________
6. Subject area you teach______________________________
7. Specific Fullerton College Class you would like to use for the Classroom Research Project:
   ______________________________
8. Are the students in the class primarily adults age 25 and older? (circle one) **YES** **NO**
9. When did this class meet during Spring semester 1990? (day/time)
   ______________________________
10. Are you teaching the same class in Fall semester, 1990? (circle one) **YES** **NO**
11. Is this class being offered at a similar time in Fall semester, 1990? (circle one) **YES** **NO**
12. Why would you like to participate in this Classroom Research Project?
    [feel free to use additional paper as needed]
    ______________________________
    ______________________________
    ______________________________

**IMPORTANT NOTE: All participants who are selected for the "Classroom Research Project" must receive training in Classroom Research techniques prior to the start of the Fall semester.**

13. Are you available to attend the Classroom Research training session on Saturday, August 11 from 9am-3p
    (circle one) **YES** **NO**

13a. If you are not able to attend this training session, would you be available to attend a six-hour training sessi
at another time before the final meeting of all Classroom Research Participants on Saturday, August 18?
Please specify all available times during the week of August 11-August 17 below:
______________________________
[If possible, an additional workshop may be set up for those not available August 11.]

14. Are you available to attend the final meeting of all Classroom Research Participants on Saturday, August 1
    (circle one) **YES** **NO** [If "NO" -- an individual meeting will need to be set up before your class begins]

**Please return this form as soon as possible to: Diana Kelly**
**Fullerton College**
**321 E. Chapman Ave.**
**Fullerton, Calif. 92634**

**Those received first will be given higher priority for selection.**

# Classroom Research: A Summary of the Techniques and How to Use Them

**Prepared by Diana K. Kelly, Fullerton College**

**What is "Classroom Research"?**

Classroom Research is a series of teaching techniques which have been developed by K. Patricia Cross and Thomas A. Angleo of U.C. Berkeley in which instructors use simple research techniques to find out what students have been learning. These techniques are described in detail in their 1988 book, Classroom Assessment Techniques: A Handbook for Faculty, published by the National Center for Research to Improve Postsecondary Teaching and Learning (NCRIPTAL) at the University of Michigan, Ann Arbor.

**What are the benefits of using Classroom Research Techniques?**

1. Benefits to Instructors:
   - Focus on Student Learning. Classroom Research causes instructors to focus on student learning rather than on their own teaching. By finding out what students have learned and what questions they have, instructors can focus the class more effectively to meet the learning needs of the students. Instructors are able to increase their effectiveness by knowing what the students have learned well, and which areas need more work.
   - Formative Evaluation. Unlike student evaluation surveys which are typically given at the end of the semester, Classroom Research provides an on-going system of evaluation. At the end of the semester it's too late to make changes which would enhance student learning. But by using an on-going formative evaluation at the end of the class meeting, the instructor can find out what can be changed immediately to positively affect student learning.
2. Benefits to Students:
   - Opportunity for feedback. Unlike examinations, which also measure student learning, Classroom Research provides a non-threatening, non-evaluative method of finding out what students have learned. Students are often hesitant to ask questions during class because they don't want to interrupt a lecture, or they may feel that they are the only one who didn't "get it." Classroom Research provides an opportunity for all students to ask questions anonymously. Students are likely to discover that others in the class also had similar questions or problems.
   - Learning from others. Students may find out that others in the class learned some interesting things that they had not picked up from the class session. This can stimulate some students to become more involved in class meetings, and to use critical thinking skills during class.
   - Increased involvement in learning. Students are likely to become more involved in their own learning because Classroom Research requires them to think about what they've learned so far by summarizing major points covered in a particular class meeting. Through greater involvement, students are likely to become more self-directed learners, and are less likely to drop out of class.

**How can Classroom Research Techniques be used?**

1. Classroom Research techniques may be used in any type of class: traditional academic classes such as English, History, and Math; vocational "hands-on" classes such as Child Care, Broadcasting, and Automotive Technology; and activity classes such as Music Performance, Art, and Physical Education.
2. The book mentioned above contains detailed explanations of 30 different Classroom Research Techniques. Different techniques may be more effective for different types of classes. Some techniques are for individuals, others are for use in small groups.
3. Here is one example of a simple technique:
   Step 1: About five minutes before the end of the class meeting hand out index cards to students.
   Step 2: On one side, ask them to answer the question, "What was the most important thing you learned today?" or "List three new things you learned today." A more specific content-centered question may also be used.
   Step 3: On the other side, ask them to write down any new questions they have as a result of the class meeting, or any questions that haven't yet been answered, or areas they didn't understand.
   Step 4: Collect the cards (they should be anonymous).
   Step 5: Tabulate the answers and analyze. The answers may be arranged into categories.
   Step 6: Spend five minutes at the beginning of the next class meeting briefly summarizing the results. Then, address the questions or areas which were not fully understood.

# Fullerton College Classroom Research Project, Fall 1990
## Participant List by Division

Applied Design and Human Studies
Pam Fillmore, Food and Nutrition
Linda Wokurka, Child Development

Business and Computer Information Systems
Louis Dexter, Management
Bill Harwood, Real Estate
Gerry Sheppard, Accounting
Carolyn Wood, Escrow

Fine Arts
Bill Hayner, Drawing

Humanities
Emmie Lim, ESL
Michele Miller, Writing
Lydia Velez, Spanish
Michelle Wilder, Writing

Mathematics Division
Bill Baldwin, Computer Science

Social Sciences
Jane Dill, Marriage and Family

Technology and Engineering
Nicole Birch, Cosmetology
Darrell Burdette, Construction
Murray Hochman, Electronics

## Classroom Research Workshop

### Workshop facilitator: Diana K. Kelly

### August 11, 1990, Fullerton College

| | |
|---|---|
| **9:00** | Welcome and Introductions |
| **9:20** | Expectations for Today's Workshop (index card) |
| **9:25** | Student Diversity in the Community College |
| **9:30** | Learning Styles Exercise |
| **9:40** | Feedback from Expectations Exercise & My Goals for Workshop (Agenda) |
| **9:55** | **Break** |
| **10:05** | Definition and Description of Classroom Research: Teaching Goals & Student Learning |
| **10:15** | College of Marin Videotape |
| **10:30** | Discussion of video |
| **10:45** | Task #1: Focused Listing |
| **10:55** | **Break** |
| **11:05** | Discussion of Focused Listing Exercise |
| **11:15** | Task #2: Ideal Student Assessment Response |
| **11:50** | One Minute Paper: Definition of CR, Question about CR (index card) |
| **11:55** | **Lunch** |
| **12:25** | Feedback from One-Minute Paper |
| **12:40** | Adult Learning Principles |
| **12:55** | **Break** |
| **1:05** | Adult Learning Videotape |
| **1:20** | Discussion of video |
| **1:35** | Planning a Classroom Research Project |
| **1:40** | Task #3: Individual Classroom Assessment Projects |
| **1:55** | **Break** |
| **2:05** | Small Group Discussion: Assessment Tools used, teacher benefits, student benefits |
| **2:20** | Discussion of projects and assessment tools |
| **2:35** | Best part and most difficult part of Classroom Research Project (index card) |
| **2:40** | Evaluation of workshop |
| **2:50** | Feedback from index cards |
| **2:55** | Strategies for Success in Classroom Research |
| **3:00** | Workshop ends |

# Fullerton College
# Classroom Research Project Meeting
# Saturday, August 18, 1990

## Agenda

First hour: Review of Classroom Research, and Record-keeping

9:00 Introductions

9:20 Brief review of Classroom Research

9:30 Discussion: How to explain what you're doing to your students.

9:45 Record-keeping, reporting back, and next meeting

Two hours: "Hands-on Experience" with Classroom Research

10:00 Each participant: one Classroom Research question

- Take no more than one minute to explain your class and ask your question. Other participants will respond as if we were your students. You will collect the cards and later tabulate.

10:45 Individual tabulation of cards

- Sort the cards into categories, if possible.
- Write brief versions of responses on transparency. If appropriate, indicate the number of similar responses.

11:15 Giving feedback

- Each participant will have a maximum of five minutes to review the responses on the cards (using the transparency) and to address the concerns expressed.

12:00 Workshop ends

## Fullerton College
## Classroom Research Project
## Fall, 1990

### Instructions on Reporting Results of Classroom Research

How often should Classroom Research assessments be conducted?[minimum 5 times]

- Some faculty do one Classroom assessment in each class meeting.
  - This is an effective way of determining if students "got" the major points of a class presentation, or if they have any questions about the material covered.
- However, Classroom Research techniques may also be effectively used with less frequency. Use your own judgement to determine good points within the course to do an assessment. Classroom Research may be used
  - at the start of a unit of study (to determine what students already know).
  - in the middle of a unit of study (to find out what students don't understand).
  - at the end of a unit of study (to find out if students understand the material sufficiently to go on to the next topic, or to determine the recall of a topic).

Each time you conduct a Classroom Research assessment in your class, please report the results back to Diana Kelly [through campus mail] by briefly answering the following questions in writing on a separate page (typed/word processed, if possible):*

1. What did you want to find out?
2. What question(s) did you ask? [If you used a survey form or a "pre-test", please attach a blank copy.]
3. How did you feel about the responses?
   - Overall, were you pleased/disappointed with the student feedback?
   - Overall, what do you think the student responses mean?
4. How did you respond to the student feedback?
   - How did you feel about the in-class presentation of feedback?
   - If you made any adjustments in your class as a result of the student feedback, what were they?
5. [Optional] Did you learn anything new from this process that was not covered in any of the four above questions?

Please make a xerox copy of your transparency of feedback that you used in your class, and attach it.

* **Note**: This should not be a chore, but, rather, is intended to assist you in focusing on the whole Classroom Research Process. For this reason, try to keep your answers brief so that you do not end up spending too much time on this. If you'd like to discuss the results, please call me [992-7278 or 992-7161] and I'll be happy to talk with you!

# Fullerton College
# Classroom Research Project
# Fall, 1990

## Student Retention Survey, Spring 1990

Please look up the following information from your records from Spring 1990. [Note: if you did not make a copy of your records before you turned them in last semester, you may go to the Admissions and Records Office and ask to see your records from last semester. You are the only one who has access to your class records.] Note: All information will be strictly confidential, and will only be reported in aggregate form -- no individual class grade distributions or retention rates will be reported.

Please fill in the following information and return to Diana Kelly through the campus mail at your earliest convenience. Feel free to call me if you have any questions or concerns: 992-7278 or 992-7161.

Your Name: ______________________ Department: ____________________

Course Title of Spring 1990 class: ________________________________

[this should be the same course that you're teaching this semester]

Day(s) the class met during Spring 1990: ______________________________

Time the class met during Spring 1990: ________________________________

Number of students enrolled in the class on the **white (permanent) roster**: ________

Number of students who **withdrew** from the class with "W" grade: __________

Grade distribution of students who **completed** the class, Spring 1990:

Number of **A** grades: __________

Number of **B** grades: __________

Number of **C** grades: __________

Number of **D** grades: __________

Number of **F** grades: __________

---

**Information about Fall, 1990 Class**

Course title: ____________________________________________

Day(s) class meets: _______________________________________

Time class meets: _________________________________________
[Enrollment numbers will be requested once you receive your white roster, at the fourth week of classes. Grade distributions and withdrawals will be requested at the end of the Fall semester.]

### Fullerton College
### Classroom Research Project
### Fall, 1990

### Student Information Survey, Fall 1990

Please use your current permanent white roster for Fall 1990 and your own observations to provide information about your students this semester. This iinformation will be compared with the information about last semester's students. [Note: All information will be strictly confidential, and will only be reported in aggregate form -- no individual class grade distributions or retention rates will be reported.] Please fill in the following information and return to Diana Kelly through campus mail at your earliest convenience. Feel free to call me if you have any questions: 992-7278.

Your name: ______________________

Number of students enrolled on **white (permanent) roster**: ___________

Student characteristics:
Are your students different this semester from those in the same class last semester? Please note any differences by circling all appropriate answers:

1. Age: In comparison to last semester's class, my Fall 1990 students are generally

OLDER YOUNGER ABOUT SAME AGE

2. Gender: In comparison to last semester's class, my Fall 1990 class has

MORE MALES MORE FEMALES ABOUT THE SAME AS SPRING 199

3. Skills: In comparison to last semester's class, my Fall 1990 class has

BETTER ACADEMIC SKILLS WORSE ACADEMIC SKILLS ABOUT THE SAM

4. Motivation: In comparison to last semester's class, my Fall 1990 class is

MORE MOTIVATED LESS MOTIVATED ABOUT THE SAME

5. Other Differences: Please note any other differences you have noticed between your class this semester and the group you had taking the same class last semester.

______________________________________________

## Fullerton College
## Classroom Research Project
## Fall, 1990

### Student Retention Survey, Fall 1990

Please use the information from your class records from Fall 1990 to complete this form. Note: All information will be strictly confidential and will only be resporte in aggregate form -- no individual class grade distributions or retention rates will be reported.

Please fill in the following information and bring it to your individual meeting with me. Or you may mail it to Diana Kelly through the campus mail as soon as possible (end of Fall 1990 semester). Feel free to call me if you have questions (992-7278).

Your Name: ____________________ Department: ________________

Course Title of Fall 1990 Class: ________________________________

Total number of students enrolled in the class on the **white** roster: _____

Grade distribution of students in the Fall 1990 class:

Number of **A** grades: ________ (if your class is credit/no credit)

Number of **B** grades: ________ Number of "**Credit**": ____

Number of **C** grades: ________ Number of "**No Credit**": ____

Number of **D** grades: ________

Number of **F** grades: ________

Number of **W** grades: ________ (withdraw)

Number of **I** grades: ________ (incomplete)

## Fullerton College
## Classroom Research Project, Fall 1990

### Student Survey

Please answer the following questions as completely as possible. The information you provide will be used to enhance the Classroom Research Project in the future. [Feel free to continue your answers on the back.]

1. Did you feel that your individual questions or needs about this class were satisfied? Please explain or give an example.

   ______________________________
   ______________________________
   ______________________________
   ______________________________

2. Did the anonymous feedback help you to learn? Why or why not?

   ______________________________
   ______________________________
   ______________________________
   ______________________________

3. Did the anonymous feedback help you to feel involved in the class? Please explain.

   ______________________________
   ______________________________
   ______________________________
   ______________________________

4. Which feedback technique did you like the best? Please describe the technique and explain why you liked it.

   ______________________________
   ______________________________
   ______________________________
   ______________________________

5. Which feedback technique did you like the least? Please describe the technique and explain why you did not like it.

   ______________________________
   ______________________________
   ______________________________
   ______________________________

6. Other Comments: Please feel free to use the back of this paper to add any additional comments about your experiences with Classroom Research techniques in this class.

# Summary of Quantitative Data
## Fullerton College
## 1990 Classroom Research Project

### Frequency Distribution

- 16 classes:
  - same class and same instructor, Fall 1990 and Spring 1990
  - F90, Classroom Assessment Techniques were used in classes

- Spring 1990:
  - Total of 414 students
  - 312 completed classes, for a completion rate of 75.1%.
    - Evening class completion rate S90: 73.8%
    - College completion rate S90: 75.4%
  - Mean GPA: 3.07 (Only for those receiving grades)
    - Evening GPA: 2.84
    - College Mean GPA: 2.76
  - Grade Distribution:

| Grade | Project Group | College Evening Classes | College Overall |
|---|---|---|---|
| A | 38% | 37% | 34% |
| B | 38% | 31% | 29% |
| C | 19.5% | 20% | 24% |
| D | 1.5% | 5% | 6% |
| F | 3% | 7% | 7% |

  - Credit/No Credit (non-graded basic skills classes):

| CR/NCR | Project Group | College Evening Classes | College Overall |
|---|---|---|---|
| CR | 71% | 73% | 62% |
| NCR | 29% | 27% | 38% |

- Fall 1990
  - Total of 427 students
  - 336 completed classes, for a completion rate of 78.7%.
    - Evening class completion rate F90: 74.1%
    - College completion rate F90: 76.2%
  - Mean GPA: 3.05 (only for those receiving grades)
    - Evening GPA: 2.84
    - College Mean GPA: 2.72
  - Grade Distribution:

| Grade | Project Group | College Evening Classes | College Overall |
|---|---|---|---|
| A | 39% | 38% | 33% |
| B | 36% | 29% | 30% |
| C | 19% | 20% | 24% |
| D | 2% | 5% | 7% |
| F | 3% | 8% | 8% |

  - Credit/No Credit (non-graded basic skills classes):

| CR/NCR | Project Group | College Evening Classes | College Overall |
|---|---|---|---|
| CR | 87% | 78% | 69% |
| NCR | 13% | 22% | 31% |

- Summary of Changes from Spring 1990 to Fall 1990
  - Changes in the College
    - Evening class completion rate went up .3%.
    - College class completion rate went up .8%
    - Evening GPA remained the same at 2.84.
    - College mean GPA went down .04.
    - Evening classes for credit/no credit had 5% more receiving "Credit" in Fall 1990.
    - College classes for credit/no credit had 7% more receiving "Credit" in Fall 1990.

  - Changes in the Classroom Research Group Classes
    - Course completion rate went up 3.6%.
    - GPA went down .02%.
    - Classes for credit/no credit had 16% more receiving "Credit" in Fall 1990.

- Comparison of College and Classroom Research Group Classes
  - Course Completion Rate
    - In Spring 1990, the Classroom Research Group classes had a completion rate that was 1.3% higher than the College Evening classes, but .3% lower than the overall college rate.
    - In Fall 1990, the Classroom Research Group classes had a completion rate that was 4.6% higher than the College Evening classes, and 2.5% higher than the overall college rate.

  - Grade Average
    - In Spring 1990, the Classroom Research Group classes had a mean GPA that was .23 higher than the College Evening classes, and .31 higher than the overall College GPA.
    - In Fall 1990, the Classroom Research Group classes had a mean GPA that was .21 higher than the College Evening classes, and .33 higher than the overall College GPA.

  - Credit/No Credit [5 of the 16 classes were Credit/No Credit Basic Skills classes]
    - In Spring 1990, the Classroom Research Group classes for Credit/No Credit had a "Credit" percentage that was 2% lower than the College Evening classes and 9% higher than the overall College percentage. [NOTE: All five Classroom Research Group classes were evening classes.]
    - In Fall 1990, the Classroom Research Group classes for Credit/No Credit had a "Credit" percentage that was 9% higher than the College Evening classes and 18% higher than the overall College percentage. [NOTE: Two of the five Classroom Research Group classes were day classes rather than evening classes. This makes the dramatic increase even more interesting, because the College day classes tend have significantly lower percentages receiving "Credit."]

- Differences in Classes from Spring 1990 to Fall 1990:
  According to faculty observations in the first four weeks of class:
  - 5 classes were younger in F90 than in S90.
  - 2 classes had more males, and 2 classes had more females in F90 than in S90.
    - In the two classes with more males, one class had a female instructor, one a male instructor.
    - In the two classes with more females, one class had a female instructor, one a male instructor.
  - 6 classes had better academic skills, and 4 classes had worse academic skills in F90.
  - 4 classes were more highly motivated and 4 classes were less motivated in F90.
  - Two classes were day classes (F90) rather than evening classes.

- One class had a considerably better classroom location (on campus rather than at Fullerton H.S.).
- One class had a considerably more immature group in F90.
- One class had fewer full-time students in F90.
- One class changed from meeting 3 hours on 2 days to meeting 4 hours on 1 day.

- Changes from S90 to F90

1. Grade Average

- Seven classes had a higher GPA and four had a lower GPA in F90.
- Of the four "less motivated" classes
  - one had a higher GPA than in the previous semester.
  - one had a lower GPA than in the previous semester.
  - two were "Credit/No Credit" classes, both of which showed significantly better "credit" rates.
- Of the four classes with "poorer academic skills"
  - two had lower GPA
  - two had lower rates of receiving "credit" (Credit/No Credit classes)
- Of the five classes with "younger" students in F90,
  - two had lower GPA.
  - one had higher GPA.
  - the two Credit/No Credit classes had higher "credit" rates.
- Of the four classes with more males/females than previous semester,
  - In the two classes in which the gender of the instructor matched the increased gender of the students (Male instructor with more male students, Female instructor with more female students), both classes had higher GPAs than in the previous semester.
  - In the two classes in which the gender of the instructor did not match the increased gender of the students (Male instructor with more female students, Female instructor with more male students), one had a higher GPA and the other was lower.

2. Retention Rate

- Eleven classes had improved retention and 5 had poorer retention in F90.
- Of the four "less motivated" classes in F90,
  - three had higher retention rates.
  - one had a lower retention rate.
  - the average course completion rate went up 5% for these four classes (from 76% in Spring 1990 to 81% in Fall 1990).
- Of the four classes with "poorer academic skills" in F90,
  - three had lower retention rates.
  - one had a higher retention rate.
  - the average course completion rate went up 1.5% for these four classes (from 70% in Spring 1990 to 71.5% in Fall 1990).
- Of the five classes with "younger" students in F90,
  - two had lower retention rates.
  - three had higher retention rates.
- Of the four classes with more males/females than previous semester,
  - In the two classes in which the gender of the instructor matched the increased gender of the student (Male instructor with more male students, Female instructor with more female students), both classes had higher retention rates.
  - In the two classes in which the gender of the instructor did not match the increased gender of the students (Male instructor with more female students, Female instructor with more male students), one class had higher retention and one had lower retention.

## Data Analysis

### 1. Grade Average

Correlations

- Positive correlation (.69) indicates that classes with a higher GPA in the Fall had older students.
- Negative correlation (-.54) indicates that classes with a higher percentage receiving "Credit" in the Fall had younger students.
- Positive correlation (.56) indicates that classes with a higher GPA in the Fall were also those in which the teacher believed the students' academic skills were better than their S90 class.
- Positive correlation (.51) indicates that classes with a higher percentage receiving "Credit" in the Fall were also those in which the teacher believed the students' academic skills were better than their F90 classes.
- Negative correlation (-.69) indicates that classes with a higher GPA in the Fall also had a lower dropout rate in the Fall.
- Negative correlation (-.69) indicates that classes with a higher percentage of "Credit" grades in the Fall also had a lower dropout rate in the Fall.
- Positive correlation (.63) indicates a relationship between the S90 GPA and F90 GPA.

Chi Square

- Chi Square analysis of the Spring 1990 "Credit" grades for the College overall and the Classroom Research Project Classes indicated no significant relationship between percentage of "Credit" grades and being in the class of a project group member [chi square = 1.8].
- Chi Square analysis of the Fall 1990 "Credit" grades for the College overall and the Classroom Research Project Classes indicated a significant relationship [<.01] between the percentage of "Credit" grades given and being in the class of a project group member in which Classroom Assessment was used [chi square=9.44].

T-test (paired)

- No significant difference was found in the Grade Average of S90 and F90. [T=.212, prob=.836]

Multiple Regressions [NOTE: None were significant. P>.05]

- The following variables were used to predict the Fall 1990 GPA: change in class size, change in student age, change in student gender, change in academic skills, change in motivation, and change in student retention rate. [R square=.47]
  - More females [T=1.053]
  - Higher motivation [T=.54]
  - Same age students (not younger) [T=.47]

- The following variables were used to predict the Change in GPA from S90 to F90: change in class size, change in student age, change in student gender, change in academic skills, and change in motivation. [R square=.65]
  - Same age sutdents (not younger) [T=2.12]
  - More females [T=.70]
  - Higher motivation in [T=.67]

## 2. Retention Rates

Correlations

- Positive correlation (.69) indicates that classes with a higher retention rate in the Fall also had a higher GPA in the Fall.
- Positive correlation (.66) indicates that classes with a higher retention rate in the Fall were also those in which the teacher believed the students' academic skills were better than their S90 class.
- Positive correlations (.51 S90, and .56 F90) indicated that classes with higher retention met more days each week.

T-test (paired)

- A significant difference was found in the retention rate of classes in S90 and F90. Retention was higher in the F90 semester. [T=2.35, probability<.05]

Multiple Regressions [NOTE: None were significant. P>.05]

- The following variables were used to predict the F90 retention rate: F90 Class size, F90 length of class meeting, F90 number of class days, and F90 GPA, [R square=.75]
    - More class meeting days [T=2.72]
    - Larger classes [T=-1.35]
    - Longer class meetings [T=-1.19]

- The following variables were used to predict the F90 retention rate: change in class size, change in age, change in academic skills, change in gender, change in motivation, and change in GPA.
  [R square=.65]
    - Higher motivation [T=1.08]
    - Same age students (not younger) [T=.79]
    - Larger classes [T=-.77]
    - Higher GPA [T=.48]

- The following variables were used to predict the Change in the Percentage of Student Retention: change in class size, change in age, change in gender, change in academic skills, change in motivation, and change in GPA. [R square=.66]
    - Better academic skills [T=2.17].
    - Higher GPA [T=1.86].
    - More males [T= -1.37].
    - Larger classes [T=-.65].

# Meeting Notes
# Classroom Research Group Meeting
# September 8, 1990

The following are the responses to two questions asked of participants: 1) What have you done so far and how did it go? and 2) What will your next assessment be?

Anna Gutierrez, ESL

- So far three assessments have been done in her class.
- The first one was unsuccessful because the answers were vague. For this reason, she chose not to give feedback to her class.
- The members of the Classroom Research group responded that this was not unsuccessful -- because something could be gained from the vague nature of the answers. Perhaps the students weren't yet ready to give more specific answers, or perhaps the assessment questions needed to be worded more specifically.
- The second one was the student background survey, and the results were more interesting. However, no feedback was given to the class because they get to know each other very well through group work exercises.
- The third assessment worked well. The class was asked to use index cards to answer the following two questions: 1) What did you learn today?; and 2) What didn't you understand?
- They did groupwork while the answers were read quickly and sorted. Then feedback was provided to the class from the cards. This was successful. This technique will be used again.

Nicole Birch, Cosmetology

- In the first assessment, students were asked anonymously why they were taking the class.
- In addition to the assessment, students completed a memory exercise to learn the names of the other members of the group.
- Also in the first meeting, students were asked to fill out the Learning Styles Inventory. She found that the students were primarily visual and interactive learners.
- In response to this, she provided a brief visual memory test, and tied it to the idea that in passing a state board exam it is important to learn to remember visuals and words together.
- Students responded very positively to these memory techniques and visual learning techniques, and are now excited about learning and testing.
- In another assessment exercise, she did an oral tally of "what have you learned so far?"

Michelle Wilder, Developmental Writing

- At the first class meeting she discussed with the students the idea of time management and the importance of attending class meetings. In addition, the work involved in class was discussed.
- The first assessment asked students to use index cards to write "What will be the most difficult and the easiest things about this class for you?" (anonymous responses)
- Responses were tallied and written on the chalkboard while they were completing a brief writing assignment.
- Feedback was given immediately to students in the first class meeting. Students responded very positively, and were happy that she had taken the time to actually read what they had written on the cards.
- She noted that although many expressed some anxiety about writing essays and other longer writing assignments, the students wanted to keep on writing at the first class meeting. She finally had to take their papers away because the class was ending.
- The second assessment was "Clearest point/Muddiest point". Run-on sentences were the clearest point. Although a considerable about of time had been spent on topic sentences for paragraphs, students were still unclear about them.
- As a result, more time was spent in class to discuss which topic sentences were too broad, too

narrow, or good.

- The next assessment will be a mini-summary on sentence fragments, following a lecture and a homework assignment on sentence fragments.

Jane Dill, Marriage & Family

- At the first class meeting the students had a chance to discuss the syllabus and ask questions.
- The first assessment was the Student Background Survey, which included information about their family background and experiences, and any anxieties about the class. One male in the class expressed concerns about "male bashing."
- In the first class meeting, groundrules for discussions were discussed.
- The approach to the class was not changed as a result of the first assessment. So far the questions that have been raised are the same as those from previous semesters.
- Students also completed the Learning Styles Inventory. The members of the class are primarily interactive learners. However, it was interesting to note that many other cultures do not like interactive learning. So this provided an opportunity to discuss that American family values and styles would be the focus of this class.
- Another assessment was done using the index cards and anonymous responses: "What was the most important thing you learned today, and what was the fuzziest thing?"
- As a result of the feedback, she discovered that off-hand comments are often remembered by students, and may be more important that she had previously realized.
- The next assessment will be a focused list.

Michele Miller, Developmental Writing

- So far three assessments have been completed.
- First, a student background survey assessed their previous experiences in English classes, and the easiest and most difficult thing about taking this class.
- She found that using the overhead transparency for feedback really held the attention of the students better than just talking about it. Students felt good when they saw that others in the class had similar responses. By giving the feedback, students were aware that their responses were important and were taken seriously.
- In the second class meeting, students were asked to do the "One Minute Paper" anonymously using the index cards. They were asked to respond to this question: "What was the most important thing you learned today, and what was unclear?"
- Most of the students said that so far nothing was unclear, although a few had questions about the journal assignment.
- The responses were shared in class, and the discussion showed students that brainstorming techniques were valuable. They felt that they can learn to write.
- Students took the Learning Styles Inventory, and the results were discussed in class. Most of the students were visual learners and aural learners, and several were kinesthetic learners. After the discussion, one of the kinesthetic learners said "I don't think I'm so weird now!"
- She felt that the third assessment was not successful. It was a one-sentence summary technique ["Who did what to whom . . ."] which was really not appropriate to the story that was used in class.
- The next techniques she plans to use are a clear point/muddy point question, and process self-analysis (#21 in book).

Gerry Sheppard, Elementary Accounting

- The first assessment was the Learning Styles Inventory. He found that the majority of the class are print learners in the second semester group, and a combination of interactive learners and print learners in the first semester group. This is good, because the textbook is used heavily, although the first semester class also involves some interactive activities.
- The second assessment was a "Student Goal Ranking" exercise. Most students had three goals,

and they were ranked by importance and by difficulty.

- In the third assessment, students were asked to use index cards to respond anonymously to "What do you hope to learn, and how do you expect to use it?"
- The next assessment project will be a focused list exercise, and he also plans to use process self-analysis (#21).

Emmie Lim, ESL

- The first assessment was the Student Background Survey.
- The results showed that students had generally not been in this country long. In the next class meeting when the feedback was given, a good discussion about cultures resulted. Students were very curious about the other students in the class: their country of origin, and their culture.
- In addition, students wanted to talk about what it's like to adjust to life in the United States. Students' anxieties were relieved as a result of this discussion.
- As a result of this discussion, she will add a new question to the Student Background Survey for next semester: "What is it like to live in the United States?" This will give students an opportunity to vent their frustrations.
- In the second assessment, students were asked to respond anonymously on index cards, "What do you feel is one of your weaknesses in ESL."

Pam Fillmore, Foods for Fitness

- The first assessment was the student background survey. Usually this class is almost all returning women, but this time there are many who are younger students. A couple of young male students discovered quickly that they were in the wrong class -- somehow they thought that it would involve body building. . .
- Through the student background survey, she discovered that many have no previous cooking background. As a result, she is making some adaptations to the class to accomodate these different needs.
- On the first class meeting, she told students something about her own background as a student in order to encourage students to keep on going to college.
- When feedback was given to the students, they responded very positively: "You really read these!"
- So far, despite the lack of cooking background, the class has been very successful in creating garnishes that would rival those created by advanced gourmet/catering classes.
- The next assessment will be Minute Notes: Clearest point/Fuzziest point.

Lydia Velez, Spanish

- The first assessment was the Student Background Survey. She found that only two were taking the class "for fun", and most of the others were taking Spanish because they felt that it was important in their work.
- The Student Background Survey results also indicated that they are a very hard-working group: over 90 percent of the students work full-time and take 12 units or more of classes.
- The discussion in class about the student feedback was very positive.
- The students also prefer several short exams rather than one or two long exams.
- In the results of the Learning Styles Inventory, most students indicated that they prefer to learn by reading.
- In another assessment, "Clearest/Muddiest Point," many students indicated that they were concerned that they didn't understand the accent marks. She responded by relieving their anxieties, and mentioned that it would be covered in more detail later in the semester.
- The next assessment will be another "Clearest/Most Difficult" question on index cards.

Bill Baldwin, Computer Programming "C" Language

- So far, three assessments have been completed in class.
- The first assessment was the Student Background Survey. He discovered that several in the class have Master's degrees, that this class is important for increasing job skills, and that the students are highly motivated.
- The second assessment was the Learning Styles Inventory. The results indicated that this group is more interactive than previous groups.
- The third assessment was an anonymous response using the index cards. Students used the cards to show the decision-making process in computer languages.
- The next assessment will be following the first test: "What did you think of the test?"

Bill Harwood, Real Estate Principles

- This is a large group, with 80 people in the class.
- The first assessment was the student background survey. He gave feedback about the information that was pertinent to the class, but not about some of the personal information because he felt that some students might be intimidated by the background of others.
- The results of the Student Background Survey revealed that most are in the class because they are interested in preparing for a Real Estate License. In addition, there are more Latinos in this class than there have been in previous semesters. There is some concern about the reading comprehension of some of these students for whom English is not their native language.
- The second assessment was "Minute Notes." Students were asked to write their concerns and anything that was unclear so far. The results indicated that the only unclear item was something that will be discussed more completely later in the semester.
- A diagnostic real estate test will be used. Many students underestimate their quantitative skills, and this may help to relieve some anxieties.
- Students will be asked to take information about a parcel of land and infer from it.
- The next assessment project will involve a guest speaker: questions and processing information.

Louis Dexter, Human Relations in Business

- Two assessments have been conducted so far.
- The first assessment was a "Student Goal Inventory" in which students were asked to submit their goals for the class. Many of the students had personal reasons for taking the class: they wanted to improve their general human relations skills. In addition, many wanted to apply what they learned on the job.
- The second assessment was a "Student Background Survey." The results revealed that the majority are business majors, and nearly all work full-time.
- Learning preferences indicated that the present structure of the class will meet the preferences expressed by the students. However, most prefer several shorter exams rather than one or two long exams. If possible, this will also be worked into the class.

# Meeting Notes
## Classroom Research Group Meeting
## September 22, 1990

**Announcements: Diana Kelly**

- If you need more index cards, please let me know -- they may be sent to you through campus mail.
- If you don't have a copy of the Fullerton College Part-Time Faculty Guide, please let me know and I'll be happy to send one to you through campus mail.
- Please use the enclosed index card to send your ideas for agenda items for the next meeting. This is your chance to determine the discussion items for the next meeting! [just send them anonymously to me]

**Discussion: Focus on Student Retention or Learning?**

In response to the question, "What questions or concerns do you have that you'd like to discuss in a meeting of the Classroom Research Group?" several group members brought up the concern about student retention. A question was raised: "Is the whole point of this Classroom Research Project to increase student retention?" The answer is "No." This was clarified with reference to Vincent Tinto's presentation at the beginning of the semester. Basically, his point was this: "If you focus on student retention, you'll fail. But if you focus on student learning, you are likely to increase student retention."

Concerns were expressed that in some classes which have already had a number of people drop out it may appear as though these techniques aren't working, or the teacher is at fault -- and that puts undue (and undeserved) pressure on the teacher. This is a legitimate concern -- but, as we said in the meeting, most of the time it is not the teacher's fault that a student drops the class (unless the teacher is really trying to drive students away!) Students may be quite different from one semester to the next -- their level of motivation and commitment to the class can vary widely. Teaching techniques that worked well with last semester's group may not work as effectively with a different group.

In addition, we'll probably never know who the students were that were "saved" through the use of Classroom Research techniques. It could be that someone who may have dropped the class because they thought that they were the only one who didn't understand something was retained because they found out that others didn't understand either. Other students may have become more involved in their own learning and stayed in the class for that reason. But we'll probably never know who those students were.

Initially, I thought it would be possible to compare last semester's data on student retention with this semester's data on student retention to see an overall upward trend. I will still use the data for this purpose -- but that is certainly not the main focus of this project. Because this is such an exceptional group of faculty -- highly motivated, and dedicated to teaching -- it will be difficult to improve on previous retention records. [If we had a group with a mixture of good teachers and mediocre teachers it might be possible -- but not with this group!]

So the emphasis of the final report will be on the qualitative data that you're providing for me through the results of your assessments in class. Through an analysis of the progress of the students, and their sophistication in answering the Classroom Assesment questions we'll have much richer information which will show how students have been learning through the semester. And through your impressions of what worked and the reactions of the students, we'll see how student involvement in learning has progressed through the semester. This is far more important than retention rates!

The bottom line is: don't feel "guilty" if students drop your class! Retention rates are a part of this project, but certainly not the most important part. Student learning and involvement in learning are much more important!

**Reports on First Assessment** [Two of the group members who unable to attend the last meeting gave a report of their first assessments.]

Murray Hochman [Electronics]

- So far two assessments have been done, and a third one is planned.
- In the assessment of student background, he discovered that most students in the class had more prior experience than he had expected. However, when he gave the results back to the class, he reassured those who did not have as much previous experience that he would spend time working with them individually to help them to keep up.
- As a result of the second assessment on the use of the computer in the class, modifications were made to the curriculum to cut down on the use of the computer. But the computer will be used to introduce other techniques.
- The next assessment will be after the quiz -- reactions to the quiz and the material covered.

Bill Hayner [Drawing]

- The first night of class, the student background survey was used to assess previous art experience.
- Also, at the first class meeting, students paired up to ask each other questions, then each person introduced their partner to the rest of the class.
- At the second class meeting, the results of the student background survey were presented. The goal was to set everyone at ease because it is important for people to have a good level of confidence when undertaking a creative endeavor.
- Although eight people had had an art class over two years ago and eight people had never had an art class, most said they had no anxieties about the class. Most of the students were returning students who have a full-time job.
- So far the biggest problem has been determning when to do the assessments.
- The next assessment consisted of 6 questions to enable students to assess how well they think they're doing so far -- using a rating scale of 1-10 (10 being high). Questions included,
    1. How do you rate your own overall class performance? [drawing, attendance, effort, etc.]
    2. How well do you think you're doing on the assignments?
    3. How much have you learned by this poing -- are you where you hoped you'd be?
    4. How confident are you that you're achieving your own goals [from the student survey]?
    5. How much are you enjoying the class?
    6. What would you do to improve the class?
- The results indicated that #1 was ranked the high by the majority -- overall people felt good their overall performance. #2 and #3 were ranked slightly lower. #4 was ranked high by most, although one ranked it low. #5 was all high. #6 -- all had suggestions, including painting the walls, changing the music, and having a free-expression drawing period as a part of the class time.

**Discussion: What has been the hardest part about using Classroom Assessment Techniques so far?**

- Gerry Sheppard: The most difficult part so far has been deciding on which techniques would be the best to use.
- Jane Dill: The most difficult part is remembering to allow sufficient time at the end of the class to do the assessment.
- Michelle Miller: The most difficult part has been finding sufficient time within the class meeting to do the assessments.
- Murray Hochman: The most difficult part is the composition of the class. Many are foreign students who have language problems and often don't understand the assessment questions. In addition, they are reticent to offer their opinions to the "authority figure" teacher. He needs to find a way to get them out of their shell more.

**Discussion: What has been the most successful part of using Classroom Research so far?**

- Pam Fillmore: In an assessment of a detailed lecture, she asked students to provide feedback about the lecture -- what was the most beneficial part? Students provided good information, and several mentioned that they thought that the lecture was too fast. This was beneficial to the instructor.
- Nicole Birch: She did a "before" and "after" assessment to see how much students could remember about the skin. In the first assessment, students were asked to list what they remembered about skin from the reading. Then she did a 30-minute presentation about skin. After the presentation, she asked students to list again what they knew about skin -- these lists were considerably longer and more detailed, with excellent use of terminology.
- Gerry Sheppard: The greatest success so far is that students really enjoy responding! The goal-ranking exercise was particularly successful.
- Jane Dill: The most successful assessment so far has been the student responses to the question "What have you learned so far that relates to your personal life?" Students had very good, insightful responses.
- Michelle Miller: The most successful part of doing Classroom Research is the focus on the students. It's a complete change in perspective and attitude on the part of the teacher.
- Bill Hayner: Students think it's unusual to be asking them about their learning -- there's a look of surprise.
- Murray Hochman: He's using the techniques also in a class at Cal State Fullerton -- the students have been receiving the techniques very positively -- also very surprised to be asked.
- Nicole Birch: The other part-time teachers are learning about the techniques from her -- she's been sharing the materials. Teachers are helping each other more. These techniques promote talking with other teachers about teaching.
- Michelle Miller: This project has given us a chance to know other faculty -- to feel as if we belong to a group.

# Notes
# Classroom Research Group Meeting
# October 27, 1990

## Announcements: Diana Kelly

- Council meeting of the National Center for Adult Learning, Saratoga Springs.
  This project and the other projects were enthusiastically received by the council of NCAL at their meeting on October 10. All of the projects focused on adult learning, and various ways to increase the involvement of adult college students in their learning. One other project also focused on faculty reflection on their teaching. Zelda Gamson stated that she felt that these projects were particularly important because they focused on student learning. And Pat Cross mentioned that she will be particularly interested to see the outcomes of this project because we are using the Classroom Research techniques from the book written by Pat Cross and Tom Angelo.
- NOCCCD Board Meeting Presentation.
  I was invited to give a presentation to the District Board of Trustees at their meeting on October 23. I provided a brief overview of the project, explained that all faculty participants are part-time faculty, and that the focus of this project is on using Classroom Research to increase the involvement in learning for adult evening students. The Board Members were excited that Fullerton College is the only community college to have received a grant from the National Center on Adult Learning. The Board requested that I return at the completion of the project to provide a final report on the outcomes of the project. Informally, after the meeting one of the Board members asked if it would be possible to arrange to visit one of the classes of the faculty who are using Classroom Research techniques, because she wanted to see how it works. With the cooperation of volunteers from this group, this could be arranged.
- Student Information Sheet for this semester.
  For those in the group who have not yet completed the blue form about students in this semester's class, please complete it and return it to me before our meeting is over today.
- Meeting notes from last meeting.
  The notes from the last meeting on September 22 were distributed through campus mail a week ago. If you didn't receive a copy, please let me know. If you would like any deletions or corrections, please let me know so I might make the changes before the notes become a part of the appendix for the final report.

## Discussion of Experiences with Classroom Research

Murray Hochman: Classroom Research has provided a good way to review for quizzes. Students are asked "what's not clear," and then we review it at the next class meeting. One problem: there are two students in the class who have limited English skills. It is difficult for them to understand the Classroom Research process in order to respond to the question. In addition, it is difficult for them to understand the American culture -- in the Asian culture students do not presume to tell the teacher what he/she should be doing! [Input from others: try small group work to integrate the students more fully with cooperative learning; perhaps have another student help to interpret the Classroom Research directions; realize that you're not going to break down cultural barriers in one semester -- so just keep trying!]

Louis Dexter: Following the mid-term exam, a survey was handed out to the students to ask them to evaluate the examination processes used in this class. Students were asked if they thought one type of test was more fair than another type; if they preferred one type of test over another type; and which type of test they felt that they learned from more than others. Overall, the students liked multiple choice questions, but felt that true-false questions were more had done poorly on the exams. Evening students preferred take-home tests.

Bill Harwood: Classroom Research represents an attitude of helping students, which the students appreciate. We have to remember that the class is one small facet of their busy lives (which include children who become ill, business responsibilities, travel, and job changes). Students may withdraw for any of these reasons. When a husband and wife take the class together, if one has to drop the class, they usually both drop out. In studying grades and retention of students [in this project], some of the intervening variables could include these outside responsibilities, demographic characteristics (age, ethnicity), and ability level, in addition to the attitude of the faculty member during class. In this class, the performance on quizzes is about 10% lower this semester -- although Classroom Research techniques are being used. Students in this class need more self-confidence in doing math equations.

**Discussion: Time Constraints in using Classroom Research techniques.**

Bill Harwood: I've always assessed my classes in the past, using the "Minute Notes" and other techniques. But I've been doing more assessments this semester than I normally do, and it takes more class time.

General Discussion:

- We need to prioritize by asking ourselves "Do I have to assess every thing I do?" There are certain concepts that students must have before they leave this class.
- At another college there is a form for each level of class to indicate what skills students will have coming into a certain level of an English class, and what skills they will have upon completion of each level.
- It is important to go by the agenda of the students -- if they don't understand something it is important to cover it again. This may be different than the time schedule you had planned -- but is it more important to stick to our own schedule or make sure students are actually learning?
- It is important to spend time in preparing students for tests -- particularly when the tests are administered by an outside agency for a license. The teacher and students can work together to find ways they can flunk the test, then work out solutions so they pass the test.

**Discussion: How to plan for assessments so they are done regularly.**

- Assess at the end of the class meeting, and collect it and tabulate the results before the next class, then plan to give the feedback at the beginning of the next class meeting.
- The One-minute paper is the most effective, and fastest method of assessment to use regularly, particularly if time is limited.
- "Clearest point" and "Muddiest point" are effective to spot problem areas quickly.
- Several students have remarked, "I've never had to think about what I've just learned!" Asking students to spend a minute or two at the end of the class to reflect on their own learning will probably reinforce their learning and make it more meaningful.
- The focused list didn't work as well at the beginning of the semester -- but now students know that they need to come to class prepared, so they are developing much better focused lists in class about the reading assignments.
- "Do and Say" provides good preparation for students before they discuss something in small groups.
- The directed paraphrasing technique focuses students on the subject.

**Discussion: What has worked well so far this semester?**
Bill Harwood: Students are doing a "Real Estate Current Affairs workbook" which has been effective. In addition, students are presenting a proposal in which they choose a topic and decide how they will learn it. I want to keep trying to reach students in any way possible -- as a teacher I'm never satisfied -- I'm always looking for new ways to reach the students.

Pam Fillmore: The best part of this semester has been participating in these meetings and getting great ideas from the other teachers! These techniques can be used in future semesters, too. Students received the Study Skills sheet this semester.

Bill Baldwin: Giving the feedback to the class is very valuable. I've been getting honest responses from the students, and they appreciate hearing the responses of others. Good question: What did you think of the test?

Lydia Velez: This semester has been very different -- the students have had more job changes. Students enjoyed doing their oral presentations recently. I agree with Bill Harwood -- I'm never satisfied, and always want to do things that will be more effective with the students. One problem that assessment may not be able to solve is the fact that there are too many different levels in the same class. However, students enjoy working in pairs, and their creative writing projects are going well. About halfway through the semester I have the students change seats -- they tend to sit in the same place all the time and when they are forced into changing their seats they complain at first, but then they get to know other students, and they get used to their new place.

Emmie Lim: The best part of this semester is having a chance to reflect on my own teaching. I plan to use the Student Goal Ranking exercise at the next class meeting.

Nicole Birch: Classroom assessment will not solve some problems which are inherent in a co-teaching situation. However, perhaps we could assess how the structure of the class might be changed.

Jane Dill: Using Classroom Assessment raises students' expectations about what this class will include. Bill Hayner's techniques for a mid-course assessment were very effective in my class. Students also wrote test questions -- this worked well.

Michelle Wilder: Students are more prepared for class now as a result of asking for feedback. They are not dropping as much as previous classes, and they are attending class regularly. I'm planning to use a total of eight different Classroom Assessment Techniques. The next technique will be the "Internal Dialog". I've had success in applying these techniques for test-taking.

Michele Miller: The "Process Self-Analysis" technique was very effective. The best part of the semester is that so far there has been no "mid-semester lull" -- the energy level is continuing.

# Meeting Notes
## Classroom Research Group Meeting
## December 1, 1990

**Announcements: Diana Kelly**

- Missing Pieces: If you've completed any assessments recently, please turn in the summaries soon. Also -- please turn in your Student Information Survey if you haven't already done so.
- Individual Meetings: I would like to set up an individual meeting with each member of the Classroom Research group to discuss your experiences in using Classroom Assessment Techniques this semester. The meeting will take about an hour. In this individual meeting you will be welcome to discuss any issues that you may not have wanted to bring up in the larger group meetings.
- January meeting: It was suggested at the last meeting that we might schedule a final "wrap up" meeting after the end of this semester. Because time is so tight before the holidays, I thought it would be best to determine a time in January to meet before the start of the Spring semester. (We decided on January 16, Wednesday evening from 6-8:30 p.m.)
- Tom Angelo panel: Tom Angelo will be speaking at both the morning and evening faculty meetings before the start of the Spring semester on Wednesday, January 23. He would like to have several members of this group to speak briefly about experiences with Classroom Research at some point during his sessions. [Louis Dexter and Bill Hayner will speak in the morning session; Michelle Wilder, Michele Miller, and Nicole Birch will speak in the evening session.]
- End of the Semester Survey for Students: We need to survey the students who have been experiencing Classroom Assessment all semester in our classes, to see what they think. I was going to put a survey together, but then decided that because you've had so much experience in using Classroom Research with your students, you might have better ideas for questions than I have.

  After a productive brainstorming session, we devised the following questions for the student survey:

  1. Did you feel that your individual questions or needs about the class were satisfied? (Please give an example.)
  2. Did the anonymous feedback help you to learn? Why or why not?
  3. Did the anonymous feedback help you feel involved in the class? (please explain)
  4. Which feedback technique did you like the best?
  5. Which feedback techniqhe did you like the least?
  6. Other comments (please feel free to use the back side of this survey).

  This survey will be duplicated for your classes, and will be sent to you in time for you to distribute this at your final class meeting.

**Discussion: What have you learned as a teacher this semester?**

Michele Miller: The Classroom Assessment techniques are good for basic skills students because they're basic and provide a mechanism for a quick response. I plan to incorporate these techniques into my classes in the future.

Jane Dill: Classroom Assessment provides an opportunity to correct misconceptions. Students are reticent to ask questions, so through the anonymous feedback they can ask the question, and gain a better understanding by correcting the misconceptions in the next class meeting.

Murray Hochman: This project provided me with tools I didn't have before to motivate and retain students. Using Classroom Assessment made me much more aware of the students' plight, and I have become more involved with their concerns. This has been a gratifying semester, more than in the past. The students were more motivated and wanted to stick with it. And I want to help the students to succeed.

Lydia Velez: I learned how to use the overhead transparency projector this semester -- it was good for the Classroom Assessment feedback, and good for focusing the students' attention. I had about the same percentage of dropouts this semester, but I've had more students asking if they can take my class next semester. I am very pleased with the results for myself and for the students.

Michele Miller: I also have enjoyed using the overhead projector this semester, and trying other new teaching techniques that are not related to Classroom Research: using different teaching and learning styles; learning the importance of visual learning in the classroom; and using colors to gain attention.

Lydia Velez: Using Classroom Assessment has helped me to reschedule and restructure the original class schedule. For instance, I rescheduled quizzes as a result of the feedback when it was obvious that students weren't yet ready for the quiz.

Michelle Wilder: I've always been learner-centered, but now I'm telling students even more. I explain why we're doing things, and I give lots of feedback about the issues that students said they didn't understand. I cover these things before the quizzes, and as a result the test scores have been much higher this semester, and people took less time to take the tests. Reading through the Classroom Assessment book forced me to try new things, and I used the time more wisely in class. The feedback from the students actually made the class go faster because it took fewer homework assignments to diagnose problem areas. The "Invented Dialog" technique worked well. But I learned that you need to practice using the technique at home first before trying it with a class!

Jane Dill: As an experienced teacher, using Classroom Assessment techniques stopped me from making assumptions about students based on prior experiences.

Michelle Wilder: I found that the effectiveness of the techniques sometimes depended on the maturity level of the students. Certain techniques were not as effective with immature students. I learned that each class is different, and you need to have a back-up plan so that you can make adjustments as needed. I also realized that it's OK to make changes in the syllabus -- it's not written in stone.

Emmie Lim: As a novice teacher I was insecure about my teaching. I worried about "Am I doing it wrong?" The feedback is reinforcing, and it calmed my fears. The feedback showed that our perception of how we're doing as teachers is different from reality -- we may be doing better than we realized!

Gerry Sheppard: I have become better organized through finding ways to incorporate the results of the feedback. I found that students are very straightforward about what they have or have not learned.

Bill Baldwin: The idea of using the cards as a mechanism for collecting anonymous student feedback is a more efficient use of class time. You don't have to try to read minds.

**Discussion: What would you recomend to others who would like to try out Classroom Research techniques?**

Gerry Sheppard: Use the easy techniques first. (The rating scale provided in the book is good.)
Michelle Wilder: Use the ones that have worked for others and that seem to fit your teaching style. Try it first at home before you try it in class. Don't get discouraged if it didn't work the first time -- maybe that particular technique would be more effective with a different type of class assignment, or maybe with a different group of students.
Jane Dill: Set up a peer coaching system -- have students pair up to brainstorm.
Michelle Wilder: Don't take the feedback personally -- you can't be thin-skinned. Be open to suggestions, and address the feedback with the class.
Jane Dill: You learn how to deal with negatives. We need to talk more about the negatives in our group meetings. Experienced teachers may think that Classroom Research is not for them, but it's not true. These techniques may be used effectively by teachers at any level of experience.
Michelle Wilder: It has been interesting to see what others are doing, and to see how the techniques can be used.

- Idea: It would be a good idea to spend a few minutes discussing many of the techniques in the book, and let group members provide examples of how they have used them. This would give others ideas.

**Discussion: Do you have any specific success stories you'd like to share?**

Lydia Velez: I learned that you can never make assumptions. Brief comments by individuals are not the feelings of the whole class. I had the students change seats, and did an assessment to see how it affected the students. One person said that he/she didn't like forced change, but most of the comments were positive.

Michelle Wilder: "Invented Dialog" worked well -- the most successful group was the group that ended up discussing and arguing about the characters and ran out of time for the dialog. This technique stimulated lots of discussion about the characters in a book. "Do and Say" was modified from the book -- students looked at what the writer did structurally and what they said (the main point).

Pam Fillmore: This was a difficult semester, but two students who had done poorly on the mid-term exam stayed with the class who probably would have otherwise left. One was an Asian student who had trouble working with other students and had poor English skills -- she was reassessed for English classes. Both students were provided with an opportunity to write out what they had learned so far this semester. It took extra time, but the result was that the students stayed with the class.

Murray Hochman: One Asian student with poor English skills started near the bottom of the class, but after taking some extra time with her, she scored second highest on the last exam! She tried harder because the teacher took interest. Another student had difficulties in absorbing the subject matter, but he tried hard. I spent time talking with him to get him to stick with the program.

Michelle Wilder: Although married couples often drop the class at the same time (as Bill Harwood had mentioned), I convinced the wife to complete the class even though the husband had to drop out due to a work conflict.

Jane Dill: Students are asking for more opportunities for giving feedback -- they enjoy being asked.

# Meeting Notes
# Classroom Research Group Meeting
# January 16, 1991

**Discussion: Putting it All in Perspective**

- **What good things came out of using Classroom Assessment Techniques?**
- **What did you learn about yourself as a teacher?**
- **How will this affect your teaching?**

Present: Bill Baldwin, Nicole Birch, Louis Dexter, Jane Dill, Bill Hayner, Michele Miller, Michelle Wilder.
[Note: low attendance probably due to the start of the war in Saudi Arabia that day.]

Louis Dexter: The idea of self-assigned activities was personally satisfying. I picked the techniques I wanted to use for my class. The goal-setting exercise didn't work well with my class because individuals don't like to set goals. I will give a workshop on goal setting. I really enjoyed the focused listing technique. I asked for names the second time I did it, so it was not anonymous. There was virtually no difference in the answers from the previous anonymous survey. I will tell the next class that I'll compare their answers with previous semesters. As a result of the student feedback I changed my testing techniques this semester to allow open-book tests -- students liked the fact that I was responsive to their ideas.

Michelle Wilder: Fewer students dropped the class this semester. I made better use of the class time because I knew what the students needed rather than what I thought they needed. The grades were higher this semester. I found out that I could be more effective -- I've always had good feedback from students in the past. I let the students dictate how much time was spent on each area -- I became more flexible. I learned that I needed a thick skin for criticism in student feedback. I will play with combinations of techniques that might work with different groups. I used the clear/muddy technique the most -- I liked it the best of all the techniques.

Jane Dill: The most important part of this project for me was meeting other faculty. As a part-time instructor it is hard to meet other faculty. Now I feel that I actually know a few people! I have used interactive techniques in the classroom for many years, but I was happy to find a new set of techniques that are effective in an interactive classroom. I want to go through the book thoroughly so I can use more of the techniques in workshops for junior high and high school faculty. When I had a difficult class, using Classroom Assessment techniques broke the ice. In classes of younger students (traditional-age college students), anonymous feedback allowed students to open up more than they would otherwise -- younger students feel constrained by peer pressure. Listening to all of the members of the Classroom Research group reminded me of how much fun it is to teach. The sharing of teaching experiences is important -- usually teachers just stay inside their classrooms, isolated from other teachers. It's nice to have the reinforcement, hearing that others are doing some of the same things. The practitioner should be the researcher of his or her own classroom. Educational research should start at the classroom level and go up -- not the other way around!

Nicole Birch: I had good conversations with the students at the end of the semester. They really opened up when I told them about the NCAL project. They said that they thought I should continue to teach the practical aspects of this subject. However, by teaching the theory I had a chance to strengthen my teaching in that area. Using Classroom Assessment techniques gave me more guts -- I tried new things, and came across softer but more firm. I made some structural changes in my classes as a result of the student feedback. My classes had more focus because of the Classroom Assessment.

Michele Miller: I was happy with what I was doing before, but now I'm really happy because I have become more focused on whether or not students are learning. These are good specific techniques to facilitate student learning which are different from traditional teaching methods. I have relaxed more to treat students more as equals -- as partners in learning. I now have more respect for the students as adult learners, respecting their time, and providing very specific instructions. I also have a better understanding that adults often have conflicts that are not their fault. For instance, I used to get annoyed when students would come in late -- but now I'm non-judgmental. Adult learning techniques were very important to my teaching this semester. I will continue using the Classroom Assessment techniques in the future. The simple idea of using index cards to get immediate feedback is very interesting. It is enormous fun, but it takes courage -- it can put you on the spot to answer questions. Rather than feeling obligated to answer all of the questions, I now try to get students to try to provide answers.

Bill Hayner: The most important thing I learned this semester is that it works! I was skeptical about using Classroom Assessment techniques in my classes at first because I wasn't sure that they applied to a hands-on skills class. I liked the unifying effect that Classroom Assessment had on the class. It surprised the students that the teacher was interested. It gave students the impression that "we're all in this together." It's important to tell students up front that everyone can learn to do this. In addition, using Classroom Assessment increased my communication with colleagues -- not just in this group, but in my department. I talked to some of the full-time faculty about Classroom Research, and this sparked other conversations about how to teach particular skills, and the advantages and disadvantages of various techniques. Full-time faculty have said to me that it's nice to have a conversation about teaching. (In department meetings the conversation is usually about business-related issues, not about teaching.) The interaction with this Classroom Research Group was very enjoyable. My retention of students this semester was roughly the same as it has been in the past. Usually students drop the class for reasons unrelated to the quality of teaching. The whole Classroom Research process reinforces that you're a good teacher. It's a relief to have something that keeps you out of a rut. I don't want to get into a rut like the one that some of the other teachers (and students) talk about. I have learned that I can always improve my teaching. I learned that students have some good ideas that can be easily incorporated into the class. And I learned how to take criticism in a positive way. Being open and warm and friendly with students is good because it helps the teaching process. I will continue to use the Classroom Assessment techniques and I'll try to use some new ones. I want to keep the feedback cycle going in the future. I noticed several phases over the semester in using Classroom Assessment -- first students were surprised to be asked questions, then they were happy when I responded to their questions and ideas.

Bill Baldwin: I have had positive results from using Classroom Assessment techniques this semester. I know that I was able to resolve uncertainties that I otherwise would not have been aware of. It was very good to use anonymous feedback, particularly with Asian students. I will continue to use the index cards in the future. I still have one question -- why did students appear as if they would like small group activities (according to the Learning Styles Inventory), when they were actually hesitant in class? It was very good to have the opportunity to talk with other teachers about teaching. I learned that I'm a better teacher than I thought. You have to be brave enough to ask the questions for Classroom Assessment. I was more relaxed this semester, and as a result I was a better teacher. It's been an interesting semester!

## Faculty Comments, End of Semester Interviews
(comments paraphrased and condensed for each person)

Did Classroom Research have an impact on your class this semester? (positive or negative?)

- Students provided more thorough answers to test questions because they had thought about it before during the "clearest point/muddiest point" exercise. This helped to clear up problems before the test. Might consider using a pre-test next semester.
- The "Internal Dialog" was very effective for getting students to use critical thinking skills. This would work well with students at advanced levels as well as beginning levels.
- The lowest level students and the highest level students responded the best to Classroom Research and Collaborative learning.
- In my class, student response is an integral part of the class, so it's easier for me to get student responses than it may be in other types of classes.
- Students responded positively to focused listing. They remembered items listed from early in the semester. Focused listing really helped students to remember.
- The focused listing allowed me to narrow the review time. I reviewed by concentrating on topics that were the weakest. I was able to prioritize exam problems, and told them which areas would be stressed more than others.
- Classroom Research had a positive impact on student retention -- I kept ten more students this semester than last semester.
- Attendance during the semester was much better than usual. Students would comment "This class goes by so quickly!"
- Classroom Research is always positive -- the philosophy behind it is good. It changed my attitude toward teaching and learning.
- Using instant feedback within the same class was very effective.
- It was helpful for other students to hear the responses from the initial student background survey and from questions throughout the semester.
- The goal-ranking exercise was very good.
- The student background survey was very effective. Students were surprised that their answers were taken seriously and reported back (anonymously) at the next class meeting.
- I had had problems with students doing homework. I had them come into class and write down a list of what they learned from the reading -- a Focused List. This was effective in letting the students know that they needed to do the reading.
- Student/teacher rapport is very important in learning -- it's a top priority. Everything else, including student motivation, comes naturally after establishing a good rapport with students. Students feel that the teacher really cares about them, and students felt comfortable asking questions.
- I developed a new method of critique this semester in which students wrote a critique of each other student's work anonymously, and each student received all of the anonymous feedback from the other students. This was done before I talked about each student's work in class, so students could reach their own conclusions first. As a result, students gain critical thinking skills -- they learn how to critique the work of others.
- Classroom Research had a positive impact on the mood of the class. When I incorporated students' suggestions into the class, to incorporate a "free work time" so students could work on their own projects from home (or could continue working on their class projects), it really loosened up the class. It was thrilling to see that many students were motivated to do projects on their own outside of class, exploring new techniques, etc. It was valuable to have the opportunity for students who are doing outside work within the class, because it showed other students what can be done, and it helped the instructor to see where the real interests are.

- Using Classroom Research helped to break the ice, and made it easier for students to make friends with others in the class.
- Classroom Assessment provided a good means for explaining why exams would be written rather than Scantron -- because writing skills are so important in this field. This produced positive results on the mid-term exam.
- As a result of feedback on the cards, I found that several students noted that I was talking too fast. As a result, I concentrated on slowing my delivery -- which was positive for the class.
- Students felt that they had an opportunity to express themselves every time they were asked for feedback. I noted that in a different class in which the students were younger and knew each other (more peer pressure) they tended to be less communicative in class because they were more homogeneous -- but their responses on the anonymous cards were very good.
- As a result of student feedback on an examination evaluation, I changed the final exam to an open-book test.
- Student retention was better this semester, although the grades were about the same.
- I shared what I learned through Classroom Research with my Division Dean and with others in my department.
- At the beginning of the semester I received good feedback from the students from the background survey.
- I received good feedback from students about areas we needed to spend more time on -- the students appreciated the fact that I'd read their responses, and I was able to cover certain topics in greater depth.
- Students really appreciated the work that had gone into the class.
- Students understood why they were doing what they were asked to do on the final exam.
- I've made positive changes in materials that are given to students as a result of the feedback.
- The biggest impact was getting questions (through anonymous cards) from students who would not otherwise ask.

How do you feel about using Classroom Research? Do you plan to use the techniques next semester?

- Students need to be trained to respond to Classroom Research questions. The student responses were much better toward the end of the semester.
- Using Classroom Assessment helped me to sort the students according to their needs and questions.
- I liked using Classroom Research -- the techniques worked. I might try new techniques next time to compare with the results of this semester's class. It is possible that different techniques are more effective with different maturity levels of students.
- Classroom Research didn't force anything brand new on the class -- I will continue to use it.
- This semester I only used one technique: the one minute paper (clear/muddy). I would like to find new techniques in the book to add to my class next semester. I will use the techniques again.
- This semester I used the focused list several times, the learning styles inventory and the goal ranking exercise. I plan to try the one-minute paper next semester, and I'd like to do a more in-depth background probe at the beginning of the semester. I plan to use focused listing again.
- I plan to review the book and find new techniques that the others have been talking about so I can incorporate some new techniques next semester.
- I plan to continue using techniques that can be tallied instantly during the same class meeting while it's fresh in the minds of the students. Students are very interested and attentive -- they like the idea of solving problems and answering questions on the spot.
- I would like to find some different techniques in the book that promote critical thinking, but I plan to continue using the one-minute paper and the one-sentence summary. However I'll use the one-sentence summary a little differently, now that I know about the problems students have with it.

- I plan to use the Process Self-Analysis again.
- I had no negative experiences with Classroom Research -- all positive.
- I plan to use the techniques again, but will use more techniques. I want to have more focus next semester -- figure out what to do and why. I want to be more specific in my planning for the semester -- now that I know what I'm doing!
- Most of the techniques I used worked well. I had not used the overhead transparency in class before this semester -- it was very effective for giving feedback. I also made hard copies (handouts) of what I showed on the transparency so students could follow along and jot down notes. I plan to continue using the overhead and the handouts even more next semester to focus the attention of the students on some very detailed subject matter.
- I will use Classroom Research again in the future -- and I would like to do more of it next semester. In general I tend to do things on an individual basis, walking around the room and talking to each person to see if they're having problems.
- As the semester progressed, students who had been hesitant to ask questions (particularly Asian students who had limited English skills) became more willing to ask questions. It is a major breakthrough to have students feel comfortable to ask questions.
- I know the students tried harder because I took a greater interest in their learning. I also developed a much better rapport with the students this semester.
- I plan to implement the best ideas from this semester's mid-semester survey and semester-end survey in next semester's class.
- I plan to look through the book again before next semester to see if any more techniques could be incorporated.
- I plan to use the One-Minute paper again next semester, but using the "Minute Notes" form -- it looks more professional than index cards.
- I plan to use the One-Minute paper on subjects that students find particularly difficult in this class.
- I plan to continue to use Classroom Research as appropriate, and will use the same techniques for the same topics that I used this semester. I would have liked to read more of the techniques in the book, but I don't have enough time right now.
- I will use Classroom Research again, and will probably use the same techniques. I will try to get feedback during my lectures. (Normally I have students pair off and ask specific questions during the lecture.)
- I liked the focused listing -- it was effective.
- I will use the student background survey again, but I'll revise it before next semester.
- Classroom Research has value -- it's very positive. I plan to use it in the future, and use it more intensively in the future. I'd like to go through and read the book more thoroughly to learn some new techniques.
- I'd like to use more techniques in the future.
- I would like to add time for the students to meet with me during the class meetings.
- Next time I want to use the cards to ask students "What's unclear?" before each test. It worked well the one time I did it this semester.
- I will use the background survey again next semester, and ask students about their previous achievement and coursework in this subject.
- I will use Classroom Research again next semester.
- I want to try using Classroom Research with small groups again, because in the real world people work in teams.
- I'd like to get back into the book to see what other techniques might be adapted for my class.

Did using Classroom Assessment techniques help you to develop as a teacher this semester?

- I was very busy -- it was difficult to fit it in as much as I would have liked.
- I found that I was already doing quite a bit to give students opportunities to tell me what their needs are.

- It is important to understand the maturity level of the students and adjust the techniques according to their maturity. But, at the same time, I don't want the brightest students to get bored.
- Using Classroom Assessment helped me to take criticism better -- especially after doing lots of preparation for the class!
- Now I am willing to be even more flexible -- I know I'm there to facilitate student learning. I'm paying more attention to how well students are prepared to move on to the next level, and also to apply what they've learned in my class in other situations.
- I learned that it is so important to provide students with relevance -- reasons for learning. Nobody asked me "Is this going to be on the test?"
- Now I'm interested in developing even more techniques to meet the needs of students. I plan to continue using a mixture of activities to meet a variety of learning styles. I have become more creative in my teaching.
- I gave students more reassurance -- "don't be afraid -- you are learning and progressing and developing better skills!" I learned how important it is to provide students with positive reinforcement.
- Before I had always thought that I was learner-centered, but I have become even more learner-centered.
- Being a part of this project has raised my self-esteem as a teacher.
- I now have a new career direction -- I'm interested in getting involved in faculty development!
- I learned to use the overhead projector this semester. Before I used to make handout copies of everything -- now I'm using the overhead projector to provide examples for my students.
- I used more new materials and became more creative in my teaching by using a wider variety of activities. This makes the class more interesting, and gets students more interested in the class.
- I can now prepare more things on time for students because I am more aware of my resources, so I can be more responsive to students. As a result of using the overhead projector and using a variety of teaching techniques I have enhanced my teaching methodology.
- I have learned that with this response tool I can evaluate student learning at any time. For this reason I am more confident in my teaching, and I'm not afraid to try new techniques. This makes teaching more enjoyable.
- Using Classroom Assessment has made the class more challenging for me as a teacher, instead of following the routine. It's more interesting now.
- This semester I sharpened my teaching skills that had not been used in quite a while.
- Using Classroom Research helped me to use my time more effectively by prioritizing the weak areas and spending more time on them.
- My attitude toward students changed this semester because I had a better understanding of their needs -- particularly the needs and life circumstances of adult learners.
- I was happy to learn how to use the overhead projector -- it's a very effective teaching tool!
- The major benefit of this project was reflection about teaching. Now I think more about being a teacher and seeing it from the students' perspective.
- The presentation on adult learners was very important. It made me re-evaluate my role as a teacher, and made me come down from my "ivory tower" to look at the students more realistically -- this is how the students really are. As a result I became more pragmatic. For instance, now when students come in late, I'm not judgmental -- I know the obstacles they've had to overcome to get to class.
- I have learned the importance of being direct and explicit so students know I'm not wasting time. What I cover in class has to be tangible and relevant to them.
- Using classroom research has given me a viewpoint from which to operate.

- I was always imagining what students thought -- are they bored in class? are they learning anything? As it turned out, I was being too hard on myself. Students responded very positively. Now I know that if I want to find out what students are thinking, I can just ask!
- Having to turn in summaries of my experiences in using Classroom Assessment made me think about it more. Reading about it is different from actually using the techniques. Once you've done it, it becomes more natural the second time -- it becomes a part of the class.
- I learned that it is important to let students lead the discussion -- and to allow more class time for free and open discussion.
- This is only my third year in teaching. Each semester I've been gaining confidence. Classroom Research gave me more confidence in my teaching. Classroom Research showed me that you don't have to be perfect -- you can make corrections. It was also nice to see that experienced teachers in the group were also learning.
- Now I can talk more about teaching techniques that work.
- I've been teaching part-time for 8 years -- mainly in four-year colleges. I have become a better teacher this semester. I feel I have much better rapport with the class. Using Classroom Research has helped to break down barriers. It has a snowball effect -- the students appreciate being able to talk to the teacher, and then they become more motivated, and their motivation helps to motivate the teacher!
- I learned the importance of providing relevance to adult learners. This semester I brought in some materials from my job to show students state-of-the-art technology and real-world applications.
- I learned that the sequence of the course is not well-organized as a result of being in this project. So now I'm thinking more about how this class might be reorganized to be more effective -- and I'm talking to other full-time faculty about it.
- I now have more insight into areas I had never thought about -- what's right for the student? Now I'm tailoring instruction to individual student needs. I didn't think about individual student needs before, but I do now! Being a part of this project helped me as a teacher, and helped the students, too. I thought I was student-centered before, but now I really am student centered in my teaching.
- It was nice to know that students appreciate what you do. The surveys at the end of the semester made it all worthwhile!
- Using Classroom Assessment helped to bring things to my awareness that I hadn't thought of before. Certain things that I do in class may not be working the way that I think if I don't get feedback. Certain things I did didn't come across to students as I had intended. This provided me with the opportunity to discuss those things in class, and explain to students how (and why) I would be changing what I do in class. This shows the students that the teacher is not perfect and is willing to adapt. I've learned through this process that you can't take anything for granted.
- One of the major benefits of this project was talking more to colleagues in my department, including full-time faculty, about Classroom Research and about teaching in general. In conversations with other faculty I got some new ideas, and they learned something about what has been working in my classes.
- Any change helps to develop -- helps keep me on my toes. I need to keep changing at least every three or four years, so I provide opportunities for myself to change.
- I am now more focused on the tasks of teaching because I am involved in teaching others to teach.
- After 31 years of teaching, I'm not sure how I developed this semester.
- This is only my second semester teaching, and I'm feeling more comfortable with teaching now.
- Although I've had excellent teaching evaluations from administrators in the past, I feel that it's more important to know what the students think -- this gives me room to grow.
- I am more aware of the needs of the students in my classes, and in my program now.

- I am a far better teacher than before. I'm more prepared to meet the diverse needs of a variety of students we are dealing with today.
- I am filled with confidence in my teaching -- I have more guts now -- I'm willing to try new things in the classroom, and to make adjustments.
- The most valuable thing I learned this semester is "If I want to know something, ask!" Although I always asked students if they had any questions, you could hear a pin drop. Using Classroom Research helped to overcome the problem of students being hesitant to ask questions.
- I worried less about the class this semester because I had a better idea of how students were doing. I feel more comfortable, knowing that I have increased the opportunities for students to respond.
- It was great to have the opportunity to be with other faculty as a group in this project.

Advice for others

- With very short class periods you have to be careful to not spend too much time on the one minute paper, or on going over the feedback.
- I would recommend any type of project where teachers have a chance to try new techniques.
- Using Classroom Research, or other new techniques, can create conflict in the department -- talking about new ideas and new teaching methods.
- It is important to remember that although using Classroom Research is very positive, there are many other variables that affect the grades of students and student retention in courses.
- The one technique that I thought was a failure turned out to be the one that the students liked the best! It's not safe to assume anything -- just ask the students!
- Techniques that work well in one class may not be effective in another class, simply because of differences in the characteristics of the students.
- For students with limited English skills it is important to use simple words and short words -- no "meta-language" about the techniques. Don't ask too many questions at once. But use the techniques frequently so they have practice at answering the questions. It is important to repeat the questions several times in several different ways even if students are nodding and smiling!
- The mix of the class may make it difficult to use Classroom Assessment, particularly when those who have limited English skills are in the same class with native English speaking students. It is difficult for those with limited English skills to understand the questions. It is also difficult for students from cultures in which teachers are highly respected (particularly Asian cultures) to understand the basic concept of Classroom Assessment -- it's perceived as "telling the teacher what to do" -- a foreign concept. It would be helpful to have a better idea of how to deal with the mixed classroom -- those who are limited in English skills and those who are not.
- It is important to realize that a lot of students have some real insecurities. Critiques should be tempered to help students to feel better about their work.
- It is best to change and adapt the Classroom Assessment techniques to your own class -- it takes some critical thinking on the part of the teacher to figure out how the techniques may be applied effectively in your own class.
- Each class is different. Classes with lower maturity levels may not take Classroom Research seriously, and may not benefit.
- Younger students will take the cards seriously if they are responded to seriously. It's important to let them know, "I will answer any question, no matter how ridiculous."
- Teachers shouldn't feel guilty about losing students. Too often they take it personally, and administration is concerned about student retention. You can't make assumptions that students drop the class because of the teaching -- there are usually many other factors involved.
- It's important to have a good understanding of who your students are. For instance, some of my students hadn't been in classes for a long time, and others hadn't finished high school.

# Fullerton College Classroom Research Project, Fall 1990
## Diana K. Kelly, Project Director

## Classroom Assessment Techniques used by Faculty with Adult Evening Students

### I. Assessing Academic Skills and Intellectual Development
### #1 Focused Listing

- Nicole Birch [Cosmetology]: An audiotape on memory techniques was played in class, and students were given 20 items to remember. They were asked to list the items from memory, and all students were able to develop a complete list.
- Nicole Birch [Cosmetology]: Students studied three sheets of paper with 12 items pictured on each page. They were asked to list items that were in pairs on the three sheets. [Although they had said that they preferred visual learning, they had a difficult time recalling the items in a focused list.]
- Nicole Birch [Cosmetology]: Students were asked to develop a focused list of basic knowledge of the skin after having a homework reading assignment. [They did poorly the first time, but after class discussion and another opportunity, they developed very full lists, with good use of technical terms.]
- Louis Dexter [Management]: Students were asked to list several points from the lecture, with no names attached. [The majority of responses were good, relevant items.]
- Louis Dexter [Management]: This technique was used again with the same class. Students were asked to list several points from the lecture, but this time with their names attached. [The results were slightly better the second time. The instructor didn't see that it made much difference whether or not names were attached.]
- Gerald Sheppard [Accounting]: Students were asked to list and define the terms related to bonds. [Four of the seven most important terms were mentioned by at least half of the class. Almost half of these responses were well defined, and the others were good. In addition, eight other terms were listed by students. At the next class meeting, the instructor stressed the three major terms which had not been widely mentioned by the students. In addition, the instructor plans to reorganize his presentation of the concepts so that the most important ones are more clear to the students.]
- Gerald Sheppard [Accounting]: Students were asked to list and define at least five ratios used in financial statement analysis. [On average, students listed between seven and eight ratios, with good definitions. The instructor felt that students applied themselves more to retaining the material after their first experience with focused listing. In the next class meeting the instructor reviewed the ratios that were mentioned least.]
- Carolyn Wood [Escrow]: Students completed a focused list by collaborating in small groups. Each group developed a list of forms, and explained how they were used.

### #3 Background Knowledge Probe

1. Student Background Survey
    - Bill Baldwin [Computer Programming]: The following items were included in a student survey at the beginning of the semester: major, computer languages known, degrees planned/earned, job related motivation. [The instructor decided to add a question about math background next time.]
    - Nicole Birch [Cosmetology]: The instructor asked students to respond to one question on index card "Why did you take this course? [All responses were job related, or related to career aspirations].
    - Nicole Birch [Cosmetology]: When a new class started in November, the instructor had students complete a full student background survey which included the following items:

majors, degrees planned/earned, college units completed, completed College English, Career goals, background knowledge in the subject, previous experience in subject, and learning preferences. [All were majors, all wanted to attain a license, most had not completed College English, all had career goals related to the class.]

- Darrell Burdette [Construction Management]: The following items were included in a student survey at the beginning of the semester: background in field, expectations for the class, "What skill do you hope to gain from this class?"
- Louis Dexter [Management]: The following items were included in a student survey at the beginning of the semester: major, degrees planned/earned, work, learning preferences, college English. [Most students worked full-time, and the majority were business majors.]
- Jane Dill [Marriage & Family]: The following items were included in a student survey at the beginning of the semester: educational background, work background, career goals, background in this subject, learning styles, anxieties about the class, and optional personal information relevant to the class. [Most students preferred visual learning, interactive, and print. Most were taking the course because it met personal needs as well as satisfying General Ed requirements. All but three students in the class had children.]
- Pam Fillmore [Nutrition]: The following items were included in a student survey at the beginning of the semester: educational level, background in the subject, and what they hoped to learn in the class. [The majority were in their first year of college, very few had any background in the subject, and most were taking the class for personal health and self-improvement reasons.]
- Bill Harwood [Real Estate]: The following items were included in a student survey at the beginning of the semester: work background, educational background, previous coursework in this subject, previous life experiences in the subject, previous professional experience in this subject, newspapers and periodicals read regularly, previous reading in subject area, and what students hope to gain from the class. [Most students were taking the class to prepare for the licensing exam or to gain personal knowledge in the field.]
- Bill Hayner [Art]: The following items were included in a student survey at the beginning of the semester: major, degree planned, job commitment, last class in this subject, anxieties about this class. [Most students had no major, planned to earn a degree, worked full-time, had not taken a class in this subject ever or more than two years ago, and had no anxieties about the class.]
- Murray Hochman [Electronics]: Students were asked three questions: 1) What do you want to learn in this class?; 2) How do you plan to use what you learn in this class?; 3) Do you have any prior experience or courses in this field? [Most were taking the class for job-related reasons, and over half had some prior experience or knowledge related to this field.]
- Emmie Lim [ESL]: Students were asked to introduce themselves with the following information: country of origin, work, family, hobbies, etc. Students were also asked about what they liked or did not like about previous ESL classes, and about their weak point in learning English. [Ten different countries were represented in the class,and most students had been in the U.S. five years or less. When the instructor shared the information about the country of origin with the class, students became very interested in each other and wanted to know more about the other students. This resulted in a lively discussion on the second class meeting. Next semester the instructor plans to include a question about "What is it like to live in the United States?"]
- Michele Miller [Developmental Writing]: The following items were included in a student survey at the beginning of the semester: last English course taken, other college courses this semester, work commitment, career goals, regular writing activities, newspapers and magazines read, last book read, which aspects of writing are easiest and most

difficult, what do you hope to gain from this class, and concerns about the class. [Feedback at the next class meeting focused on forms of writing done regularly, easy and difficult aspects of writing, and course goals.]

- Lydia Velez [Spanish]: The following items were included in a student survey at the beginning of the semester: educational background, general goals, work experience, and learning styles. [Students had good career goals, and multiple commitments: work, family, and college.]
- Linda Wokurka [Child Development]: The following items were included in a student survey at the beginning of the semester: professional background in this field, and why they were in this class. [Most of the students were currently working in the field, and others who were not currently working in the field teamed up with those who were.]

2. Learning Styles Inventory

The following instructors used the "Perceptual Learning Styles Inventory" developed by James & Galbraith, published in Lifelong Learning, January 1985.

- Bill Baldwin [Computer Programming]: Most of the students indicated print and interactive preferences. [However, students didn't seem to want to participate in class discussions during the semester.]
- Nicole Birch [Cosmetology]: Most of the students indicated visual and interactive preferences. [The survey was administered twice to the same group for reliability.] [Although students preferred visual modes, they seemed to remember more from aural learning.]
- Louis Dexter [Management]: Most of the students had visual learning preferences. [It was odd that there were very few who preferred interactive modes of learning in a human relations course!]
- Michele Miller [Developmental Writing]: Most of the students were visual and aural learners, and several were kinesthetic in their preference. [Students seemed to find the Learning Styles Inventory comforting because it legitimized their learning preferences.]
- Gerald Sheppard [Accounting]: Two levels of accounting were assessed. The beginning accounting students indicated a preference for interactive and print learning. The advanced students indicated a preference for print and visual learning. [More interactive activities were incorporated into the beginning class, and more visuals were incorporated into the advanced class as a result of these assessments of learning style preferences.]

## #7 Do & Say Analysis

- Michelle Wilder [Writing]: After reading an essay which incorporated compare/contrast and argumentation, students were assessed to find out if they understood how this was done in the essay. Students wrote on a sheet of paper what the author had done structurally with the essay and what she was saying (the main thesis). [Over half of the students were able to identify both the structure and the thesis. About one third were able to discuss the author's main points, but were not able to identify the writing strategies. One student was able to discuss the structure of the essay, but was unclear on the main point. At the next class meeting, the instructor congratulated them on their ability to use their critical thinking skills to identify the writing strategies and the thesis, and emphasized the importance of re-reading the piece for meaning if it is unclear the first time.]

## #9 Analytic Memos

- Louis Dexter [Management]: The instructor used case method discussions by breaking class into "committees" of 6 or 7 students, each with a group leader. The groups analyzed and discussed the cases.

### #10 One Sentence Summary

- Michele Miller [Developmental Writing]: Students were asked to write a one-sentence summary of a story. However, this story was somewhat complicated, and the technique was confusing to some students. [The instructor plans to use this technique again with a different type of story.]

### #12 Paper or Project Prospectus

- Bill Harwood [Real Estate]: The instructor provided students with a form for a proposal for a current events notebook in the subject. The form asked students to consider the following aspects of their notebook: major purpose; major questions they intend to answer; a brief plan for the project; a calender for component tasks; and major concerns or questions about the project.
- Linda Wokurka [Child Development]: Students were asked to submit a draft of their proposal for a project and presentation, which was reviewed by the instructor. The instructor offered suggestions on the proposals.

### #14 Invented Dialogs

- Michelle Wilder [Writing]: After discussing two pieces of literature and discussing characterization, students completed "invented dialogs" in small groups. The class was split into six groups, three groups focusing on each piece of literature. [Overall, the dialogs indicated that the groups understood the characters well enough to develop realistic dialogs. One group spent so much time arguing and discussing the characters that the dialog was never completed, but their exercise was very valuable for understanding character development. The instructor read the dialogs to the whole class, and they were discussed further by the class. The instructor felt that this was an important exercise because it went beyond critical thinking into synthesizing and critiquing.]

## II. Assessing Students' Self-Awareness as Learners and Self-Assessments of Learning Skills

### #15 Student Goals Ranking

- Louis Dexter [Management]: At the beginning of the semester students were asked to list 3 to 5 goals they hoped to achieve by taking the class. Students brought their goals (and rankings for most important and most difficult) to class the following week. [All of the goals were relevant to human relations, most wanted to apply what they learned at work, and over half had goals of self-improvement.]
- Emmie Lim [ESL]: Students completed the goals ranking exercise right after the mid-term exam rather than at the beginning of the semester. The instructor felt that this would provide some extra motivation to finish the second half of the semester, and to get some idea of what the students hoped to gain from the class (possibly areas that had not yet been addressed). [Although there was some confusion about the process of ranking the goals, most students had goals that were compatible with the overall goals of the course. The instructor provided feedback by listing the five main goals that most of the students mentioned, and this did provide good motivation for the students.]
- Gerald Sheppard [Accounting]: Students provided three major goals for the class, and ranked them according to difficulty and importance. [Most had goals related to learning more about accounting in order to pursue a degree in business or accounting, and to pursue a career in accounting. These goals were reviewed by the instructor at the next class meeting. Knowing that many planned a career in business or in accounting, the instructor provided more examples from the business world to stimulate greater interest in the subject.]

### #21 Process Self Analysis

- Michele Miller [Developmental Writing]: Students were asked to record each process they used when preparing a composition. This was used to assess whether or not students were following recommended procedures for prewriting, drafting, and editing when writing compositions. [Most students utilized the procedures presented in class, although they spent varying amounts of time on the different steps in the process. Some students indicated that they had added additional steps. The instructor plans to use this information to develop a procedural outline for students to fill in as they do the first few writing assignments.]

## III. Assessing Student Reactions to Teachers and Teaching Methods, Course Materials, Activities, and Assignments

### #25 Teacher Designed Evaluation Mini-Forms

- Nicole Birch [Cosmetology]: Students were asked for their reactions to a research project in which each student did outside research on a portion of the chemistry lesson. [Students agreed that it was much easier to understand the material when they investigated it themselves rather than just reading it in the textbook.]
- Nicole Birch [Cosmetology]: Students completed a revised version of Classroom Research questionnaire at the end of the semester. [The responses were very positive: Students responded positively especially because they knew that the instructor had been a part of this project, and was trying some innovative teaching techniques designed to improve their learning.]
- Darrell Burdette [Construction Management]: At the end of the semester, students were asked to respond to a question on index card: "What might be changed about the class?" [Generally the feedback was very positive, and included a few suggestions regarding the text and new class topics.]
- Jane Dill [Marriage & Family]: Students were asked to respond to a survey about the class with about one month left in the semester. The survey included the following items: how students felt they were doing so far, are they enjoying the class, suggestions for improving the class, and topics that they are hoping would be covered before the end of the semester. [The responses were very positive, although some students seemed to think that this class would solve all of their problems in this subject. The instructor had to re-emphasize that this is intended as an introductory course, and that they could explore certain topics in further depth in other advanced classes.]
- Bill Harwood [Real Estate]: The instructor used the form provided by the Fullerton College Instruction Office for teacher evaluation twice during the semester: once right after the mid-term exam and once after the final exam. [Results of both surveys were extremely positive.]
- Bill Hayner [Art]: A survey of six questions was given to the students after the fifth week of class (about one third of the way into the semester): 1) How high would you rate your overall class performance so far?; 2) How well do you think you have done on assigned projects so far?; 3) Do you feel you have learned as much as you had hoped you would by this point in the semester?; 4) How confident do you feel about achieving the goal you described on the student survey at the first class meeting?; 5) How much are you enjoying the class?; and 6) What suggestions would you make to improve the class? [The results were very positive. The majority of students were very happy with their progress in the class, and all students said that they were enjoying the class. Two major changes were made in the class as a result of this survey: the instructor changed the way classroom critiques were handled to include all students' work, and a free-drawing period was incorporated into the class meetings so that students might bring in their own work or continue working on class projects, as they preferred.]

- Murray Hochman [Electronics]: About three weeks into the semester, students were asked two questions to assess the computer component of the course: "Do you feel the time spent on the computer was worthwhile?; and Do you have any specific suggestions for using the computer as an aid in teaching logic design? [Most responded positively that the time spent on the computer was worthwhile, although only a few had specific suggestions for using the computer as an instructional aid for teaching logic design.]
- Murray Hochman [Electronics]: At the mid-point in the semester, students were asked two questions to assess their experiences in the lab portion of the class: Has the pre-lab been adequate to work the experiment?; and Have you received adequate help during the lab? [Responses were unanimously positive.]
- Emmie Lim [ESL]: To get an overall impression from the students about the class presentation relatively early in the semester, students were asked to respond to four questions: 1) What did you learn today?; 2) What did you like/not like about today's class?; 3) What was the least/most important thing you learned today?; and 4) What did you not understand? [Students indicated that they were understanding the major points, and offered several good comments about the class which were incorporated by the instructor.]
- Emmie Lim [ESL]: Near the end of the semester, students were asked to complete a teacher evaluation. [The responses were very positive.]
- Entire group: All students were provided with an end of semester survey about Classroom Research. [Overall, the response was very positive.]

## #27 One-Minute Paper

1. Clearest/Muddiest points
    - Darrell Burdette [Construction Management]: The instructor used this technique twice during the semester to ask students for the clearest & muddiest points for that class meeting.
    - Pam Fillmore [Nutrition]: Students were asked to respond anonymously with the clearest & muddiest points after a lecture.
    - Murray Hochman [Electronics]: Before quizzes, students were asked to write down what was unclear. This provided an opportunity for a good review to prepare for the quiz.
    - Lydia Velez [Spanish]: About one week into the semester, students were asked to indicate the "clearest" and "muddiest" grammar point up to that point, so that they might be reviewed the following week. (This was a way to find out the different concerns of students in a two-level advanced class.) [The responses indicated that all of the "muddy" points were items that would be covered during the semester. In addition, the instructor reassured the students on a point which was of great concern to them, but relatively unimportant.]
    - Lydia Velez [Spanish]: One week later, students were again asked to indicate the clearest and muddiest grammar point so far. [This time there was a much greater variety of responses because of the different levels of students in the class.]
    - Michelle Wilder [Writing]: After a lecture on key factors which affect writing, students were asked to write the clearest concept and the muddiest concept. [Although a great deal of time had been spent on topic sentences, most students named topic sentences as the muddiest point. Most students felt that run-on sentences were the clearest. The instructor reviewed topic sentences again at the next class meeting, and found that students understood them better than they had realized.]
    - Michelle Wilder [Writing]: Before the first quiz, the students were asked to write the clearest and muddiest concepts so far in the semester. This was done to assess the student's readiness for the quiz. [Results from this assessment were used for a review before the quiz.]

- Michelle Wilder [Writing]: Before the second quiz, the students were asked to write the clearest and muddiest concepts regarding sentence structure. [Most students were concerned with sentence fragments and run-on sentences. These were reviewed before the quiz.]
- Michelle Wilder [Developmental Reading]: Before the second quiz, students were asked to write the clearest and muddiest concepts so far. This was done to assess their readiness for the quiz. [Students indicated that run-on sentences were the clearest concept, and sentence fragments were the muddiest. The instructor reviewed fragments and provided a worksheet on fragments which students started in class and completed at home. In addition, the instructor addressed fragments again several class sessions later under the heading of "comma usage." Students indicated that they understood fragments much better when they were covered again.]

2. Most important things learned/Still fuzzy or want to know more about
   - Jane Dill [Marriage & Family]: At the end of the first class session the students were asked to list what they remembered that was important from that class meeting, and what was still fuzzy. [Overall, the comments were good and relevant, and there were a few surprises. Some students remembered items that had been considered by the instructor to be "throwaway" comments.]
   - Jane Dill [Marriage and Family]: At the end of a class meeting in which a great deal of material had been covered, students were asked to list the five most important things they'd learned that night, and the questions they had on the information that was covered. [Good responses indicated that students were involved and attentive. The responses allowed the instructor to pick up on areas that needed clarifying.]
   - Michele Miller [Developmental Writing]: In the second class meeting, students were asked to respond to the questions: "What was the most important thing you learned today?" and "What was unclear?" [Most students said that nothing was unclear, although several had questions about the details of a journal assignment. The responses of most students indicated growing self-confidence and interest in the subject.]
3. Specific Questions
   - Bill Baldwin [Computer Programming]: Students were asked to show the computer decision-making process anonymously on the index cards.
   - Bill Baldwin [Computer Programming]: Students were asked to respond to two questions about short review of material for an upcoming test: 1) Is there anything that is unclear about what will be covered on the test?; 2) Please suggest a question to be used on the test. [Although there were no hands raised in class, most students had good questions on the cards, and the class average for this test was 80%, which was high -- this was the most complex body of information of any of the tests.]
   - Jane Dill [Marriage & Family]: Students were asked if they were applying what they were learning: "What have you learned either in the text or in class that you feel have helped you in your personal life?" [The results were very positive. The instructor found that both those who participated actively in class and those who were more reticent were getting something out of the class that they could use.]
   - Emmie Lim [ESL]: Students were asked to respond anonymously to the question: "What do you feel is one of your weaknesses in learning English?" [These areas were addressed in class.]
   - Emmie Lim [ESL]: Students were asked several questions to assess their knowledge of basic English grammar: sentence fragments, run-on sentences, and comma splice -- and to assess their understanding of how to fix these problems. This assessment was done after students had done numerous practice exercises, so most of them knew the answers. [The instructor plans to review each type of sentence error separately next time.]

- Michele Miller [Developmental Writing]: Near the end of the semester, students were asked to write on the index cards (anonymously or not, at their preference) any concerns they had about the class, and areas they would like to work on before the semester ended. [Most were concerned about the upcoming final exit exam, and some expressed specific concerns about punctuation and grammar. The instructor used this information to schedule the topics of the remaining class meetings.]
- Michele Miller [Developmental Writing]: Before the final exam, students were asked to write questions on areas of concern: on one side "Parts of Speech" and on the other side "Sentence Patterns." [The responses were used immediately in class, with students participating to answer the questions raised on the cards.]
- Gerald Sheppard [Accounting]: Beginning students were asked to respond to two questions: "What do you expect to learn in this class"; and "How do you expect to use it?" [Most students were interested in the practical application of accounting principles. For this reason, the instructor incorporated many practical examples into the class.]
- Lydia Velez [Spanish]: Students were asked to anonymously respond to the question "Why do you want to study Spanish?" [Students indicated a real commitment to learning Spanish, as an asset in future careers and as a way to advance in current job positions.]
- Lydia Velez [Spanish]: At the third week, students were asked to respond to a question which assessed their understanding of a specific grammar point. [Most students needed some clarification, so the instructor reviewed this point in class again.]
- Lydia Velez [Spanish]: About mid-way through the semester, the instructor has the students change seats so that they might converse with others. An assessment was done to find out how students reacted to the seat change. [All but one said they liked the idea of changing seats.]
- Michelle Wilder [Writing]: On the first day of class students were asked to write on one side of the card what they felt would be the easiest part of the class for them, and on the other side the most difficult part of the class. The instructor tallied the cards while students were completing a writing exercise, and put the results on the board. [Overall, students felt that getting to class would be the easiest part, while the mechanics of writing, writing essays, and organizing their thoughts would be the most difficult parts. The instructor took this opportunity to reassure the students at the beginning of the semester.]
- Michelle Wilder [Writing]: When this same assessment (easiest/most difficult) was done in another section of the same class, the results were somewhat different. The second class was a day class with younger students. They felt that writing would be the easiest part of the class, but their concerns about the most difficult part of the class varied widely. The instructor felt that perhaps these students had more confidence in their writing abilities than the adults in the evening classes, and emphasized to students that their positive feelings toward writing would pay off in this class.
- Michelle Wilder [Freshman English]: When the same assessment (easiest/most difficult) was done in an evening Freshman English class, the results were similar to the results of the evening writing class in which students are preparing for Freshman English. [Most students said that writing and getting to class would be the easiest part of the class, but writing essays and completing a research paper would be the most difficult parts of the class for them.]
- Michelle Wilder [Writing]: After a lecture and homework assignment which addressed sentence fragments, students were asked to write the definition of a sentence fragment on one side of the card, and list three ways to correct a fragment on the other side. [The results of this assessment indicated that one third of the class was completely lost, one third could define a fragment but could not correct the problem, and one third could define a fragment and correct the problem. The instructor provided additional time in class to cover sentence fragments and to have students do some exercises in class which addressed fragments.]

- Michelle Wilder [Writing]: At the midpoint in the semester, students were asked to assess their own progress by writing anonymously about how their skills had changed since the beginning of the semester. [The responses were very positive. The instructor showed the students the key words from their responses, and told them that she was also pleased with their progress.]
- Michelle Wilder [Writing]: In a daytime section of the same class (with younger students), this same assessment was done at the midpoint in the semester. [Overall, the responses were positive, however there were more negative comments in this group than in the evening group. Several expressed concerns about writing an essay. However, the instructor planned to cover this in more depth in the next class meeting.]
- Michelle Wilder [Developmental Reading]: At the midpoint in the semester, students were asked to assess their own progress by writing anonymously about how their skills had changed since the beginning of the semester. [This class was different from the first class -- it was a reading class, and it was a day class with younger students. However, the results were the same: students had very positive comments about their own progress.]
- Michelle Wilder [Freshman English]: After the midpoint in the semester, students were assessed to find out how they felt their skills had improved, and what skills still needed some work. This was a particularly critical time, because they were working on the research paper. [In general, the responses were positive. Students now felt comfortable with writing essays, and generally felt more comfortable with their writing skills. However, some were still concerned about the mechanics of writing and grammar. The instructor emphasized that writing skills improve gradually over time with practice, so they should continue to work on their weak areas, but not be too concerned because it takes time to develop good writing skills.]

4. "Minute Notes" (developed by Bill Harwood)
    - Bill Harwood [Real Estate]: Students were provided with a printed form on which they were asked to answer two questions: 1) What are the three most important things you learned in today's class session?; and 2) What do you not understand regarding subject matter that has been presented in class?What would you like clarified? This technique was used several times during the semester. [Near the beginning of the semester, results showed that the only item that was unclear was something that would be covered later in the semester.]

5. "Ah-Ha" (developed by Linda Wokurka)
    - Linda Wokurka [Child Development]: Students were provided with a printed form on which they were asked to answer three questions: 1) Ah-Ha! (What was especially meaningful to you? What was new to you?); 2) Commitment! (What one commitment are you going to include in your work with children?); 3) Say What? (What questions do you have about this topic). This technique was used twice during the course.

**#29 Exam Evaluations**

- Bill Baldwin [Computer Programming]: Students were asked for recommendations for test format changes twice. [Students provided good suggestions the first time, but no response the second time.]
- Louis Dexter [Management]: Students were asked for their reactions to the mid-term and other tests at the mid-point of the semester. [Students felt that tests up to that point had provided fair assessments of their learning; about half favored multiple choice, and half favored open-book take-home tests. As a result, the instructor changed the final exam to an open-book test.]

- Pam Fillmore [Nutrition]: Students were asked for their reactions to the mid-term exam: testing knowledge (how easy/difficult), changes in the test, and if the weekly quizzes helped to prepare for the midterm. [Responses indicated that students had various testing preferences, and the weekly quizzes were very helpful in preparing students for the midterm.]
- Murray Hochman [Electronics]: Students were asked for their reactions to a major test: 1) Did the quiz prepare you for the test?; and Is the review of the quiz and test solutions adequate? [Responses were very positive -- students felt well prepared for the test.]

**Other Classroom Assessments** (not from the book)

Memory methods: Nicole Birch [Cosmetology]

- Students listened to a cassette tape on chaining methods of learning text, then heard a lecture on bacteria groups. After a 30-minute break, students were assessed on their memory of bacteria groups by individually matching pictures with terminology. [All students remembered 100% of the terms.]
- Students heard a lecture covering further information on bacteria groups. After a 30-minute break, students were assessed on their memory of the new bacteria groups. [All students remembered 100% of the terms.]
- Students were assessed on their recall of skin terminology by matching 100 terms with descriptions. [Students did very well.]

Guest Speaker Questions: Bill Harwood [Real Estate]

- A form was provided for students to complete one week before a guest speaker came to class, and background was provided about the guest speaker. Students were asked to write three questions for the guest speaker which would be given to the speaker before coming to class.

Focusing Processing Information: Bill Harwood [Real Estate]

- Students were asked to complete a form in which they analyzed how they focused their attention on a class presentation, and how they processed the information. Five questions were asked: 1) How completely were you concentrating on the presentation?; 2) Did you become distracted in any way? (if so, by what -- how did you refocus your attention?); 3) What were you doing to record the information?; 4) What were you doing to associate the new information with what you already knew; and 5) What do you expect to occur next, and why?

## Student Comments about Classroom Research
### Semester End Survey

NOTE: All answers appear exactly as written, with the exception of spelling corrections. Words which were indecipherable appear as brackets [], and teachers names and references to the subject matter of the class were deleted.
TOTAL: 248 surveys [of 336 students who completed classes, response rate=74%]

1. **Did you feel that your individual questions or needs about this class were satisfied? Please explain or give an example.** [240 responses, 8 missing]
   "Yes" answers [225=94%]

   a. General "Yes" answers [23=10%]
   - Yes. [||||||||||||||||] (16)
   - Yes. On [specific areas of the subject].
   - Yes, always -- later if not sooner.
   - Yes -- and more.
   - Yes, I do.
   - Sure, man!
   - Yes, that basically sums it up. I think I got a lot out of this class, being that it's only a semester class (which isn't very long).
   - Yes -- no complaints.

   b. Yes, but . . . [10=4%]
   - Yes and no. I felt in the classroom my questions to answers were answered but when I took the exams I felt thrown off by the questions.
   - Yes, but [] not exactly what I wanted. I needed [a class that focused on a different aspect of this topic.]
   - There were some things that I didn't understand, but for the most part, yes.
   - Yes, I still have a lot of questions about [a specific topic], but I'm told we'll cover that more in the next class.
   - Yes. I really do not feel that anything in this class is worth learning for the future except [two topics].
   - Yes, but I just took this class for fun.
   - My questions were adequately answered and taken care of. The class was quite easy for me. Therefore, it didn't meet all the needs at my level, but not because it wasn't handled right.
   - Yes, I needed the class to fulfill a requirement. But I do feel the class was not demanding enough.
   - Yes, but I would like to learn more [of a particular topic] and less focus on [another topic].
   - Yes, mostly. Need more specific information, but given the time constraint, instructor was good.

   c. Classroom Research [17=7%]
   - Yes. [The teacher] asked us every three weeks or so how we were doing, and it was on anonymous cards so we feel more freely to ask certain questions.
   - Yes. Questions that I submitted were answered in class with direction for more in depth research.
   - Yes. The questions or problems we have were asked for and when they were received [the teacher] gave feedback the next class time.

- I didn't have too many questions or needs that I wrote down. I felt comfortable in [this teacher's] class to ask them straight out.
- Yes. I never had a question that didn't get answered. The anonymous feedback was helpful in this area as sometimes you don't know what question to ask but someone else will.
- Yes. When [the teacher] went over them in class, there was the opportunity for more feedback.
- Yes. There were some new study techniques such as survey in the beginning of the class, questionnaire questions and answers.
- Yes, they were satisfied. Whenever we went over anonymous questions I would always hear mine.
- Yes, my opinions were taken and tried in class to see if it made class easier or maybe a little more fun.
- This class was different in the sense that I have never been asked about various learning techniques before. I think it is an excellent way for the teacher to evaluate the needs of the class.
- Yes, many times others brought up points I was questioning.
- Yes, the teacher asked what areas we were uncertain about and worked extra time on it.
- Yes, when I had questions I just asked [the teacher] or [he/she] had cards for us to fill out about what we weren't clear on.
- Yes, my questions were satisfied through the anonymous feedback.
- Yes. It helped me because I wrote down what I had problems in and that the instructor is aware.
- Yes, because suggestions were received and I found other things that I had not mentioned but someone else had mentioned. I didn't just think the cards were thrown out.
- Yes, very much so. When [the teacher] would get the feedback [he/she] would write out the number of people who said this or that and then we would discuss how we felt about it.

d. Individual questions answered [40=17%]
General (21)

- Yes. All my questions were always answered.
- Yes, any question I had was answered thoroughly.
- Yes. Many questions were answered and the one question is "ask [ ] from that you always wanted to ask" which is very [].
- Yes, very much. During the classroom lectures, all my questions has been answered. I am clear with the class.
- Most questions I had were answered directly either by the instructor of a fellow classmate.
- Absolutely. All of my questions were answered to my satisfaction.
- Yes, all the questions were satisfied with the appropriate answer.
- Yes -- I had no problems getting any answers I needed.
- Yes. It is hard to give an example but I can not think of a question that was never answered.
- I tend to ask a lot of questions, therefore I feel that yes, my questions are answered and I was satisfied with the answers I received.
- Yes. Every time I had a question it was answered.
- Yes, I feel that my questions were answered.
- Yes, I did feel that my questions were satisfied.
- Yes. All of these questions were answered.
- Yes. If I was confused about anything I was satisfied with the answer.
- All questions asked were answered completely and candidly.

- Yes, I feel the questions I asked were answered with a understanding example or illustration.
- I feel most of my questions were fully satisfied.
- Yes. I do feel that all my questions were answered.
- Yes, my questions were fully answered.
- Yes, our questions were addressed in the class.

Yes, but . . . (2)

- Yes. All questions were answered, though I did not agree with all comments.
- For the majority of them, they were.

Questions answered in class (11)

- My individual questions and needs were satisfied throughout the whole semester. The teacher always answered my questions in a clear and concise manner and I learned a lot about [this subject] due to all the assignments given.
- Yes, the instructor invited group questions and discussions. If someone had a question it was not hastily answered.
- I feel that if I had a question, even if it was not answered right away, it was usually answered within the semester. I am very satisfied with [the teacher's class] and I feel it is the most valuable class I have ever taken.
- Yes, I do. I found it was very easy to ask questions and get answers for them without feeling that I was interrupting the class.
- Yes. I felt like I could ask just about anything and actually get a truthful answer.
- Yes. We were able to ask questions about the specific topics we had problems with and did not have to waste time on the subjects we understood.
- Yes. The chapters were discussed in detail during class. Questions were always welcomed and addressed as needed.
- Lecture hours answer any questions that I'm not sure of.
- My individual questions were answered satisfactorily. Answers were confirmed by re-reading sections of textbooks.
- Yes, whenever I had a question I would present it and it was included in the class discussion.
- Yes, it was satisfied. There were times when you never seen or heard that kind of question, which is nice; it helps to be be well-informed.

Individual attention (6)

- Yes. Questions were always answered. Individual attention was available after class.
- Like all class situations I have encountered, one receives what one hazards to venture. Yes, sometimes I have to ask questions, but I always got some direction to solve my problem.
- Yes. Every time I have questions about a certain chapter, I come early to class to ask the instructor my questions. Sometimes I feel that my questions were of stupid level, thus, I come early to class so I will not be intimidated by my classmates if it were just a few of my classmates were present.
- Yes, because my individual questions I asked, [the teacher] answered the question with exactly what I needed to know.
- Yes, I feel my individual questions were answered because I needed help on [a specific topic], and the professor answered my needs.
- Yes, questions asked for one self helps the individual work on certain topics of the class that is wanted or needed.

e. Better understanding [27=12%]

- I learned more about [specific topics] this semester. In the past, I was lost when it came to these topics. I wish there was an easier way to learn more about them.

- Yes. When I started this class I had many questions [on specific topics]. I feel that I understand them now much better.
- My questions were answered pretty well, and I got a good understanding about the point in question.
- Yes. I always felt that my questions were answered clearly. I never left the classroom feeling confused.
- I feel that every question I asked was explained to me until I understood the process in question. My major need to understand [specific topics] were answered.
- Yes, because we could understand everything the teacher taught.
- Yes. Almost everything was clear for me. I'm happy to be in this class.
- Yes, I do. I came in not knowing much about [this class] and was still confused about [the previous class] but after a week or so felt comfortable with the class.
- I learned a lot from this class. Now I know what is [specific topics of the class].
- Yes I am satisfied with this class. A lot of [specific topics] I am able to understand.
- Yes. I'm very satisfied with this class because this class helped me to learn [specific topics] and now I am able to understand.
- Yes. I came into college having problems with [this subject] and this class helped me tremendously.
- Yes, I came into this class extremely confused. [The first two classes in this topic] were so fast -- too much information in too short a time. But this class helped me to apply and review what the information was, and I understand it much better.
- Yes, some of my mistakes were revised. Mistakes I didn't think were wrong were corrected.
- Yes, I feel my questions were satisfied in this classroom. When I came in I have a hard time with [a particular topic], but through this class I've learned to tell the difference.
- Yes, I've had a problem with [a particular topic]. This semester I feel I understand [this topic] and where to apply.
- Yes. There were many areas where clarity was brought about.
- Yes. I've learned a lot about [this subject].
- Yes. The main reason why I took this course was to understand [this subject], I feel I gained rather than not taken it.
- Yes, I think that it opened my eyes to [a specific aspect of this topic].
- Yes. The transition from [the previous level class] was initially daunting. The practical applications employed, however, was much more useful to me.
- Yes, spent more time on explaining what we didn't understand.
- Most of the material studied in this class was new to me. I feel I've learned a lot and feel comfortable and more self-assured to [use what I've learned].
- Mostly, yes. The responsibilities of [a person working in this career field] are now clearly understood, and other skills related to this career are understood.
- Yes, it provides all related knowledge and information concerning [this topic].
- Yes, as a [person just starting a career in this area], I needed a general understanding of [this topic], and I had an excellent instructor.
- The lecture covered the chapters completely and didn't have any problems.

f. Skills improved [17=7%]

- Yes. I feel I can [use my skills] effectively in a well-organized manner.
- My needs were satisfied! I re-strengthened my [skills]. But was very happy with the class.
- Yes. I needed to learn how to [use specific skills]. My [class] skills at the start were already fairly good. I learned what I needed to learn to make [my skills] better.
- I had very few questions about the class, however I came into the class to help my skills [in this subject] and those needs were met.

- Yes, my goal was to fine tune some of my skills and in my opinion I believe I have.
- Yes. I feel that my [skills] have improved. I also see the benefit of using [a particular technique].
- Yes, because I have learned to properly [perform specific skills]. These are the points I wanted to learn from this class.
- I am satisfied that my [specific skills] have improved by taking this course. However I still wish to improve my [skills] by learning to [perform specific skills] more quickly.
- For the most part I think they were. I feel I as well as the entire class progressed a lot.
- My needs were satisfied a great deal in the way of building more confidence to continue [using this skill] and learning to be patient -- things can be fixed, and learning that [using this skill] can be a relaxing pleasure.
- Yes, all of the elements that I need to be able to [use this skill] have been efficiently presented in this class. Being a [non-subject] major, I now have the skills that I need if I ever want to express myself [by using these skills].
- I am satisfied [with] this class very much because my skill [in this area] is improved.
- Yes. Received assistance, tips, etc. when needed. I have gained some self-confidence [in this subject].
- I signed up for this class to improve my skills [in this area]. I learned a lot of techniques that will help me [in this area].
- Yes! I took the class to improve my ability [in this subject] and I feel I have improved considerably in this goal.
- Yes. I feel very comfortable about my [class] skills from the work that was given. Also, my questions were thoroughly answered and explained in a way to remember.
- Yes. I really enjoyed this class and I feel that I learned many [specific] activities I could use -- lots of hands on experiences -- fun-fun-fun. I wish there were more examples of activities I could use -- also maybe handouts of other students projects.

g. Individual goals and needs met. [25=11%]

General (14)

- I have really enjoyed this class and feel that all of my needs were met.
- I felt that my needs were met because of the material the course covered and the assignments that were given to us.
- Yes. I feel I learned a lot more than I thought I would. There were a lot of interesting topics.
- I don't feel that my needs were not satisfied.
- Yes, I feel that my questions and needs were met satisfactorily.
- Yes. I feel all the questions I had during the class were adequately answered. I also received from the class what my original goals were.
- Yes, the class met all expectations.
- Yes, I feel that my needs were satisfied.
- Yes, I feel that I was satisfied in everything.
- Yes I did. All topics that were taught in the class can be applied.
- Yes. I was satisfied. The class was informative and gave me new ideas that I can use.
- Yes. I received the results I wanted for the effort I put into the class. The teacher provided the conduit for my growth in an adequate manner.
- My individual needs were satisfied. All my questions have been answered.
- Now a lot of productive classes have surprised me in my mind, but to say the least, I feel that my needs have been fulfilled to expand in conclusion of the preceding course.

Preparation for career & for advanced courses (8)

- Yes. [Specific assignments] helped me to achieve the knowledge I need to go on to [the next class].

- Yes, I now have a very solid background on the concepts of [this subject] that will be the ground of my further studies and work.
- Yes, I did. I was expecting to improve my information about [this subject], also I learned new [things in this subject].
- This class have give me a beginning an understanding about [this subject]. It will help me in my daily work to [use what has been learned]. I hope we will have the opportunity to build on what we have learned.
- Yes. I do feel my needs were met with this class. The most important element this class offered was an arena to [do the class work in the topic]. Most of my work experience has not allowed for me to strengthen these skills.
- Yes, I learned a lot about a field that I'm interested in.
- Yes, even though [I may not be able to move ahead in this field in my present employment].
- As far as I can tell. I'm just now starting to take classes, so what I've learned so far seems that it will be helpful in the future as I pursue my career goals.

Learning specific skills (3)

- Yes. I wanted to focus on [class] skills, and this subject is what we spent the majority of our time working on.
- Yes. I came to the class expecting to learn [a specific topic] and I did.
- Yes, I want in the beginning of the semester to learn about [this topic] and most of all [specific topic].

h. Instructor Quality [42=18%]

General instructor quality (4)

- Yes. I think the teacher is very good.
- Yes. The instructor is very personable. Makes class interesting and enjoyable.
- Yes. Very well. Along with having a great teacher, the techniques used were very effective and helpful.
- Yes. The teacher was very good and [he/she] taught me quite a bit.

Knowledgable instructor (5)

- Yes. I feel that the teacher is very well-informed and experienced with [this topic]. [The teacher] presented information in a way that would be appropriate for certain age groups.
- Yes, the teacher is quite learned and has no problem answering questions.
- Yes, professor was well informed and answered questions well.
- Sure did. It opened my eyes more into the way things work [from the perspective of this topic]. [The teacher] is a good teacher for this class because [he/she] has the background for it.
- Absolutely. The instructor was very knowledgeable. I can think of no questions that were unanswered. I knew nothing of [this subject] coming in -- have good foundation now.

Instructor -- **good explanations** and answered questions (19)

- Yes. [The teacher] always went thoroughly over the material and gave homework on the class material.
- Yes. I felt the class instructor explained things very thoroughly.
- Yes -- the instructor took the necessary time with each question.
- Yes. Adequate time was provided with the instructor present for the most difficult part: the lab work.
- Yes. Clarification to each question was satisfied all due to the instructor. Explained materials well.
- Yes. The teacher would always answer all of our questions to the best of [his/her] ability.

- Yes. [The teacher] is a great teacher. If I had anything to ask or if anyone else did, [he/she] would fully explain to us how to do or what to do.
- Yes. I do feel that the questions in class were answered to my satisfaction. The teacher explains everything very thoroughly. Even if the teacher needs to explain a question twice, the effort and time [he/she] puts out is above average.
- Yes, my individual needs and questions were all answered. Once I asked a question that the teacher didn't know off-hand, so [he/she] looked it up for me.
- Yes. The teacher answered a lot of our questions clearly and was very helpful.
- Yes -- whenever I asked a question, the teacher was always willing to explain.
- Yes, the instructor was very helpful in answering my questions.
- Yes, the teacher is very helpful about any ambiguous information.
- Yes. The teacher help and explained any questions I asked very successfully. [The teacher] made it easy to understand. [He/she] also gave worksheets to help us with each topic.
- Yes. The instructor was very approachable and thorough in responding to questions.
- Yes, I felt that my instructor was very attentive to questions I needed answered. I felt that [he/she] was very involved with the class.
- I thought that [the teacher] did an excellent job at answering questions and giving out helpful tips.
- Yes. [The teacher] was very clear about our subject matter. If anyone had a question [he/she] would give another example we could better relate to.
- Yes, [the teacher] has been very thorough in explaining all questions asked in this class.

Instructor caring about students' learning (14)

- Yes, every time I needed [the teacher's] help [the teacher] always was there -- [the teacher] stayed later if I needed it. This class was a marvelous experience. [The teacher] is an excellent teacher.
- I really enjoyed your class, I feel that you put a lot of effort and concern into each students' growth.
- Yes. Teacher paused often and searched for confused faces. If [the teacher] saw confusion and no questions were asked [the teacher] guessed what questions needed answering.
- Yes. I always felt that I better understood the questions. Specifically, [the teacher] went personally out of [his/her] way to make sure that not only my, but everyone's questions were thoroughly discussed.
- Yes. Because [] make me feel that my teacher care about the way I like to be for studying and by this way [the teacher] will understand my way.
- Yes, my teacher always cared about all of us. [The teacher] always answered our questions and helped us with our tests.
- Yes. I feel the teacher took the needed time to find out each student's needs and help that certain question.
- Yes. My questions were satisfied because any question that was asked, [the teacher] would help me understand what ever I was having problems with. [The teacher] gave examples and had a lot of patience which I need.
- Yes. Our instructor was most willing to take whatever time was needed to help us. When I had a family crisis and missed tow classes, [the teacher] carefully took the time to explain projects and homework so I could catch up.
- Yes. Anytime I had any question or was unclear on a certain matter, [the teacher] would take the time to explain.
- Yes -- we were always able to contribute our ideas -- the instructor was in tune with our needs.
- Yes. I have a lot of questions about [a specific topic] and [the teacher] always took time to answer them. [The teacher] didn't intimidate me.

- Yes -- the instructor always checked for understanding and was willing to re-teach or review whenever necessary. The instructor was also very aware of each person's needs.
- Yes, I felt that the teacher took the necessary time with each individual.
- Yes, the professor allowed us to freely add to or question lectures. Additionally, [he/she] gave us a home phone number to contact [him/her]. An important note -- no question was viewed as "stupid" -- [the teacher] always found a way to say, "Good point!"

i. Positive Classroom Environment [2=.9%]

- Everything expected about this class was met, and more. The openness of the class made it feel warm and inviting. I found that I am not so different from other students.
- Yes. I enjoyed the class. It was a relaxed atmosphere. If you had a question or problem regarding the materials you did not feel embarrassed to ask.

j. Quality of the class [13=6%]

- Yes. I don't know when I have enjoyed a class so much -- not since high school, that's for sure.
- It was a very surprised class, because I was expecting to learn the materials in the textbook, but the teacher did not even open the book in the class.
- Yes. The process in which the class was developed was excellent, including in each meeting date, some info of past meetings to refresh our memories.
- I feel that my individual questions and needs were satisfied because the class was well-rounded, dealing with [many different topics].
- Yes -- good discussions on not only what [the subject] was, but how and when it might be used in the "real world".
- Yes -- good classroom discussion.
- Yes, it was very informative and interesting.
- Yes. I enjoyed this class very much. It was fun, also I wanted to come to class.
- Yes, all topics listed were covered fully. There is enough time for individual discussion.
- Yes, the class has a big variety of learning techniques. I liked the way the material was presented. Also, questions were always discussed and answered.
- Yes! At the end of each chapter we were asked to answer the problems in a group which allowed everyone to participate in the group, to voice their opinions.
- All of my questions were answered and this class was exceptionally motivating! This was more informative than [other classes in the same field] which I took two years ago.
- Yes. I enjoyed the classroom activities and outside projects. The [specific topic] was interesting and fun to do -- it really got me to think about other [similar projects] I could make. The instructor was organized and full of information we could use.

"No" answers [15=6%]

a. Somewhat (2)

- To some extent -- the questions were answered, but not always completely.
- 50% yes. In the catalog I understood that the class was intended for people [needing particular skills for certification]. I was surprised to learn about the various problems and ways to avoid them. Every question I had was answered -- sometimes not the same night.

b. Too much content, not enough time (7)

- It could be improved: For example, the lectures and demonstration are very good, but we the students need to practice also in class -- like short exercises with answers by the end.

- No, I think that I need more about the knowledge [in this subject]. The materials or lectures in this class just only be a small thing -- a basic knowledge before I can go through further. However, the time didn't permit me to learn more.
- The class moved along quickly and smoothly. Just when I began to understand [one topic], we moved on to [another topic]. Also, too much homework to do a good job on all assignments.
- The class was too large to get enough one-on-one help. Questions were answered well. Class tried to cover too much in such a short time.
- Somewhat. I feel that the part about [a specific technique] helped me with [a particular problem]. But we did not spend enough time to really learn about it.
- Sometimes there was not enough time to answer questions and make the [topic] more clear.
- No. The subjects were not taught. We read the chapter and practically ran through the exercises. I felt we relied entirely on [previous coursework in this subject]. In fact, I often used the old book to study.

c. Lack of understanding (3)
- No. Not enough examples was given or shown in order to get the full meaning.
- I'm still a little confused at times when I [do a skill]. I've never been any good at [this skill].
- I was afraid to ask questions because I wasn't comfortable enough with the language. I didn't know how to ask the question most of the time.

d. Application of knowledge not included (2)
- Not all. It would have been better if at the start of the semester we created [an on-going "real-life" role-play situation that could be used during the semester to apply what we were learning]. By creating situations and obstacles to overcome, we would have an idea how to apply what we were learning. This class bounced around too much!
- Sort of. I feel the class should have gotten more involved in the everyday world items. We went over the basics, but I wish we could have done more that pertains to daily items.

e. Individual needs not met (1)
- I felt a little unsatisfied because I wanted to study more [of a specific topic].

**2. Did the anonymous feedback help you to learn? Why or why not?**
[228 total, 20 missing]
"Yes" answers [187=82%]

a. General "Yes" answers [19=9%]

- Yes. [IIIIIIII] (8)
- Of course -- feedback is always helpful.
- I believe that it did.
- Yes, they did.
- Yes, it helped me a lot.
- Yes. Because the teacher did an outstanding job.
- Yes. Every piece of work performed in class instills more knowledge. I liked all of the feedback techniques presented.
- But, of course!
- Sure.
- The anonymous feedback was so forth put to proper use in [] of participation of well being students, so [] that I speak thoroughly on behalf of the classroom.
- Yes it did.
- I believe so. It was nice to find my goals and the information I found to be closely related.

b. Yes, but . . . [14=6%]

- Yes, in a small amount. The class was monopolized by females thus hearing mostly the woman's points of view.
- A little bit -- but that is because I only asked a couple of questions.
- It did help me learn, but I feel that it was not necessary to make it anonymous.
- Yes, it did, but not always, because sometimes I need to be shown exactly what [the teacher] means.
- The only feedback that helped me was the one on [a specific topic]. I was pretty secure on everything else.
- Sometimes. Not all of the questions I had were answered. But the ones that were answered helped me to learn.
- Maybe a little. Feedback is okay, especially anonymous. But how does that actually have to do with learning for the class?
- The feedback was helpful in learning, but not as informative as were the lectures.
- Yes on some things, not everything covered.
- Although it was helpful, I felt it was not needed for it to be anonymous. I felt it should have been an open class discussion.
- It helped me realize what I needed to work on but I don't necessarily feel that the teacher changed [his/her] lesson plan to accommodate our personal needs. Also, with a class this size you can't attend to each person's personal needs.
- Medium help on certain things that I was interested in.
- A little bit.
- Yes, but I feel that the students should have brought more information in on current business practices. The book is not really that good. The book is too vague and loses you by having to refer to several other chapters continuously.

c. Learned from the questions and responses of other students. [27=12%]
Learning from the questions of others. (15)

- Yes, because other students asked questions I forgot to.
- Yes, because people asked questions that I wasn't thinking of at the time, but I would like to know the answers to.
- Yes, I was usually unable to come up with a question at the time; however, someone would ask a question I would not have thought about.

- Yes, because other students "voiced" questions that I didn't have in mind at the time.
- Yes, even though I didn't participate, a few questions were brought up that were very informative.
- Yes. Many questions were asked that I did not think of.
- Yes. Because sometimes other people would ask questions that I didn't know either, but didn't realize it, and if I already knew it, it was like a review.
- Yes, even if I sometimes didn't have anything to write, other people did and this would help me also.
- Yes, it did help me learn because my question was not the only question up on the board.
- Yes, because it was like a review time. I could listen and learn through other people's questions.
- I think it helped the whole class learn because all of everyone's main points or questions were answered. This also helped people who may not have thought of a particular problem area when they filled out the card.
- Yes, because questions I asked were answered and questions I didn't think of were also answered.
- Yes. Even though we were to ask one question per student, the other questions asked by the other students were helpful. I learned more than what I had wanted to know.
- Yes, the anonymous feedback helped me learn. It discussed the different problems that people were still unsure of and helped others as well as the person who wrote the question.
- It some ways. It answered questions that I didn't think of asking.

Learning from responses and experiences of others (5)

- Yes. It helped me to see how other students reached the same end results.
- I think it helped me learn because I could hear what the other students were having problems with.
- It did since it was right out of the real thing, I think this is the best way to learn.
- Yes. By discussing past stories from [his/her] line of work, and also the students in class to watch out and be aware of what's going on.
- Yes. Many of the other students had [] experiences that all pertained to the question in dispute.

Understanding different viewpoints (7)

- Yes. It helped me understand other's point of view and how many others shared my views.
- Yes. It gave me a chance to listen to what other people thought, and then I could harness that to my own use.
- The feedback enabled the class as a whole to know how the groups felt on particular issues pertaining to the class.
- It helps me because everyone has different view point.
- Yes. It's interesting finding out things about others in the class.
- Yes. It was good to hear other viewpoints.
- Yes, I learned just how many different types of people and learning techniques there were.

d. It made me think about the subject and pay closer attention in class. [8=4%]

- Yes. It put me on the spot with the subject matter and made me think thoroughly.
- Yes. It helped answer just small questions you would probably forget to ask if it were not asked to be written down.
- Yes it helped me by encouraging me to search to find the solution for certain problems.
- Yes. It was interesting to think about what I really extracted from this class. I guess I expected to sit still and be told what to do. My own input was sometimes difficult to express, but worth the effort.

- Yes! Let you know if you were paying attention in class.
- The anonymous feedback gave me a chance to express what I learned and apply that knowledge.
- Yes, made you think immediately of certain items. Quick recall.
- Yes. Basically because they required logic to solve them.

e. Provided a review of the material -- made it more memorable. [9=4%]

- I guess in one way the anonymous feedback helped to learn, because often going over the cards the instructor covered most of the main problems.
- It helped me to remember the things important.
- Yes. It help me implement it it my day to day activities as well as learn them for the test.
- It made me pay attention and remember what was asked.
- Yes -- somewhat strengthened my ability to recall lecture information.
- The anonymous feedback helped in regards to review of past materials.
- Yes. Not only did it help answer my question, but it also reviews subjects I already knew.
- Yes, there was plenty of feedback given to us. Helped to retain covered material.
- Yes, it re-enforced some items.

f. Provided opportunity for self-improvement & greater understanding. [27=12%]

Self-improvement & correction of mistakes (8)

- Yes, the instructor covered all the areas I felt I needed to improve in.
- Yes, because it showed me what I did wrong and what I need to learn.
- Yes, because we were learning many things and the teacher would tell us our mistakes.
- Receiving back presentations and learning any mistakes I've made. This helps to understand better.
- Yes, because it showed me all of the errors which can be improved upon.
- Yes. When the critiques came, it helped me what to avoid doing the wrong thing and instead do the right thing so my [work] was better.
- Yes, I think so. Because the feedback will help me to know whether my understanding is right or wrong in the lecture, lab, or quiz, test, and so on.
- Yes. It helped me catch those little mistakes more often!

Greater understanding of the subject (5)

- Yes, anything [the teacher] told me [he/she] made sure that we all understood.
- Perhaps it's coincidence, but, yes, I believe the class turned to my question long enough to clarify my understanding.
- They help me understand a lot about [the subject] because I never knew about [the subject] before, but the book and teacher explain clearly, but some I don't understand.
- Yes, I think it did because the teacher went over the subjects in question over and over until all of the students understood it.
- Yes, it did help. After we finished with a certain subject, such as [], the teacher made sure we understood what [he/she] was teaching.

Greater self-understanding (3)

- Yes. It helped me understand myself better.
- Yes, a little, I had already known some of the things I was told about myself, but it did help me to become more aware.
- Yes. The goal setting allowed me to learn more about myself.

Pointing out difficult areas (6)

- Yes, it pointed out the difficult areas and let you get between test feedback.
- Yes. Allowed me to pinpoint the areas I wasn't clear on, and either study for myself or ask about them in class.

- Yes, it helped me to learn. It helped to reassure me about things I wasn't sure of. It made things that were unclear clear.
- I believe the feedback helped because if I was unsure of something instead of not knowing, [the teacher] would go over it again several times throughout the semester.
- Yes, because other people asked questions about things I thought I knew, but found out I was still a little shaky on them.
- Yes, it helped go over again and again my weaker areas.

Learning in general (5)

- Yes, this helped me learn a lot because that could prepare for learning.
- Yes, because there was many words that I didn't know, but now I can use them.
- Yes, I've learned a lot that I didn't know. I feel that things that we learned in this class will help on the job.
- Yes, because I didn't know how to [do this skill] from the start.
- Yes -- different concept I was unfamiliar with.

g. Opportunity for input into the class: problem areas or class structure. [28=13%]

Requests for more time on weaker areas (11)

- Yes, because it gave the instructor a better idea of what the students needed to focus on and those areas were emphasized which helped me and the class to learn more.
- Yes, because it helps the teacher to realize that certain areas need to be covered more.
- Yes, help the teacher know what the student need and teach them more better.
- Yes. Because it helps the teachers to understand what the problems the students may have and improve to the students needs.
- Anonymous feedback was beneficial because the teacher was able to understand what the students needed for improvement.
- Yes, the instructor began to focus on the weaknesses.
- Yes, because we would usually go over the material at a slower pace.
- Yes, we had the chance to re-cover certain topics.
- Yes. [The teacher] reviewed problem areas again.
- Yes, more time was spent on weak areas.
- Yes, spent more time explaining what we didn't understand.

Input into class structure (6)

- Yes. [The teacher] would take the cards and plan the class according to the cards.
- I personally requested that the instructor critique every students work rather than a select few. I think this was very helpful once it was implemented.
- The anonymous feedback to the instructor was good as it let us get some things off our chest.
- Yes, [the teacher] gave us suggestion slips to fill out concerning anything we might feel better class, and the suggestions [he/she] had control over [he/she] put in our study plan.
- Yes. The instructor molded [his/her] teaching means to our responses.
- In a way it did, because when I wrote that I preferred group discussions, we experienced more group discussions and in my opinion that helped all the people in my class overall.

Providing instructor with greater awareness of student diversity: levels and learning styles. (6)

- Yes -- it showed how we like the instructor to teach the class at different levels.
- Yes -- I feel that the feedback enabled the instructor to focus on the technique that would be most effective, thus making it easier to learn.
- Yes. The teacher was able to evaluate our various learning styles and use various methods.
- Yes. It added some variety to the course.
- Yes, it made me aware of other phases and levels.

- Yes, [the teacher] was able to modify lectures to incorporate background needs. Also, [his/her] review of past weeks seemed to be over areas not clearly understood. Quickly grading helped me to understand while the subject was still fresh!

Opportunity for self-assessment of learning (5)

- Yes. Cause the instructor look at the feedback, so [he/she] knows that what is [he/she] doing right.
- Yes, even though it was limited, but it made me feel that I can explain my point of view about things that I liked and disliked about this class, and the way it [taught?] and therefore improve certain things to help me learn.
- Yes -- we were able to assess our needs and express them to the instructor.
- The feedback did help provide the teacher our opinions of our learning situation.
- Yes, because it gave the student and the teacher an idea why we are learning this subject.

h. Felt more relaxed, knowing others had the same problems/questions. [9=4%]

- Yes, the feedback helped me learn because it made me realize that everyone else in the classroom had the same concerns I did, so it helped me relax.
- Knowing that I was not alone in my questions or topics I'd like to see discussed let me know that either I was on the right track or way off base.
- Yes, it let me know if I was not the only person who was confused about certain subjects.
- Yes, areas that I felt unfamiliar with but was afraid to ask also turned out to be trouble with others.
- Yes. It helps you to get a feeling as to where everyone is in the class.
- It did help me learn that my peers also have the same problems, but I found it very difficult to do sometimes.
- Yes -- when we answered the questions and then were told how the class felt about different subjects, it was interesting how cohesive we were.
- Yes, because I found out that others needed help on [a specific problem] as well.
- Yes, more freedom and relaxation in class.

i. Felt free to ask questions without embarrassment. [19=9%]

- Yes, the anonymous feedback was good because you could utilize the information from several areas, not just one trouble area.
- Yes -- Because the fear of being looked down upon or embarrassed was eliminated. I was able to express myself freely and openly.
- Yes, because it was natural and nothing was held back.
- Yes. I did not have to be or feel intimidated by raising my hand or be embarrassed to ask a question.
- Yes it does because sometimes you don't want to ask questions, but doing them anonymously you can ask and get the answers.
- Yes, because I'm not one to speak up at the time with questions. So this gave me a chance to think of some questions and get feedback on them at a later time.
- It allowed you to ask a question or make a statement that you might be embarrassed to ask otherwise.
- Yes. It was easier to ask questions without knowing who gave that question.
- Yes. Because it allowed me to ask questions no matter how basic it is for other people.
- It's a nice alternative if a person has a question.
- Yes, by adhering to my anonymous request, I was able to better respond to certain situations.
- Yes -- sometimes a question is easier to ask anonymously -- avoid peer pressure.
- Yes. When I had the chance to give feedback, I asked the questions that I was too shy to ask at other times.
- Yes, it was less intimidating.

- The anonymous feedback did help me to learn. I got to have an answer and no one had to know it was my question. I also got to hear other individuals' questions.
- Yes, because you could write down things you were unsure of and not feel like someone was going to make fun of you.
- Anonymous feedback helped me to learn because I didn't feel intimidated by asking a stupid question. No one knew who had asked the question.
- Yes because you could write questions that you felt uncomfortable to ask out loud.
- The anonymous feedback was a good help to me because it gave me the opportunity to ask questions I had without the fear of embarrassment.

j. Provided greater involvement with others in class. [3=1%]

- Yes. It got me more involved in group participation.
- It did help. Did break the ice among students -- helped to develop acquaintances quickly.
- Group discussions helped in analyzing group behaviors and goals.

k. Received answers to questions [7=3%]

- Yes, because the teacher would answer any question that we handed in anonymously.
- Yes, because each question that is asked required an answer, and I felt that [the teacher] answered the questions in an easy enough answer that explained exactly what the question required.
- Yes, because the material I questioned was covered directly. It seemed that many students were asking the same questions and no time was wasted.
- Yes, because some of my questions were taken care of that way.
- Yes, because [the teacher] would go over the answer to the questions on the cards the next class and explain to the whole class, not individually.
- Yes, put out good questions.
- Yes -- answered my questions.

l. Constructive criticism received through anonymous peer feedback [6=3%]

- Yes, although finding materials for the presentations was at times tedious. I think the presentations are what gave me feedback - the grade - [] the comments good & not so good.
- Yes. Constructive criticism and competition itself tends to motivate people to succeed.
- Yes, especially the ones from our peers, when we made our presentations. Also, the comments on our papers, as we got them back was a good way to give feedback.
- Yes. I felt I have learned to take compliments and criticism and use it to improve my [skills].
- Yes, because it was told to us by someone we don't really know, so it's the truth.
- Yes -- pointing out and giving advice always helps.

m. Responses unrelated to anonymous feedback [2=1%]

- Yes it did. [The teacher] gave lectures in the class that had a lot of information in them. I always learned something good, [that I could use in a 'real-life' situation]. [The teacher] never just recited what was in the book -- [he/she] always gave us new information.
- Yes, so I don't have any complaints about the skills center or other places.

"No" answers [41 total=18%]]

General "No" answers [5=2%]

- No
- I don't think it did.

- I don't think it helped my learning [this subject] to write down the most difficult things I have come across.
- Not necessarily.
- I don't think so. The class was very interesting to me and the anonymous feedback had no effect one way or another.

Answers indicating some confusion about anonymous feedback [7=3%]

- N/A
- What feedback?
- I missed it.
- Don't remember.
- I don't recall enough to know.
- I did not use this tool.
- It wasn't really anonymous. I would have preferred more of a written feedback vs the tv system.

Mixed Reactions [5=2%]

- It was in the middle. I often understood the basic concept, but would be confused about certain details. I think it's a good idea, it just didn't work for me.
- I don't think the feedback really helped me learn, but it made me think the school cared about whether I learned or not.
- No -- but it did allow more free expression on our (students) part.
- I don't know if it necessarily helped me learn, but I did learn how I learned, so it will help in my future study habits.
- No, it didn't help me learn, but it was fun.

Prefer oral questions in class [6=3%]

- No, because you have no participation in the class.
- No. I did not hesitate to ask a question when I was in doubt about anything.
- No; have no problem voicing questions in class.
- No. If I had any questions, I would ask them in class.
- No, but I'm not shy about stating an opinion or asking for help.
- Not really because I felt class discussions were where I learned most of my learning information.

Received no response (or unsatisfactory response) to feedback [16=8%]

- I didn't get any feedback on my feedback, so it's difficult to know if any of my comments affected the structuring of the course or tests. As a learning tool, I didn't get much use out of it.
- Not really. I felt that for the most part the areas that the majority of the students were unsure about were left unanswered.
- No, my feedback wasn't used.
- No. I saw no changes which I wanted. Even though I know my comment was minority, majority won out. Each individual was not addressed.
- No, because my needs were different from other peoples.
- No -- results did not seem to apply to my learning styles.
- Not too much. Because there is usually quite a time lag between suggestion and implementation, usually we might solve that in the interval or [thing?] becomes less urgent after all.
- No, I already knew what I was writing down on the card for feedback.
- I don't think so, because after the oral critiques everybody wrote down basically the same thing.
- Not really, because most of the comments I got were too vague. If the comments would have been more direct, they probably would have helped me more.
- Not particularly. I did not have too much faith in student comments.

- Somewhat. I don't know that we actually got feedback. Several times we received extra instruction on [a specific area]. Not every area of concern was addressed.
- Not really. After the "polls" we were told what items were listed and then touched very briefly on the topic.
- Not really. Some of the requests I made received no answers or very little. To me, they were vital pieces of information I was seeking and my skimming over them briefly did little or no good.
- No, it only provided general info.
- No, because the answers sometimes were not complete answers or [he/she] did not know about it.

Needed more thinking time [1=.5%]

- When I'm asked to write down several things I have learned over a month or two in five minutes, I don't feel my answers are as correct as if I could have thought about it longer.

Feedback should not be anonymous [1=.5%]

- Anonymous feedback works best if it is less anonymous. Cards can be written with answers and posted so written answers are given.

3. **Did the anonymous feedback help you to feel involved in the class? Please explain.**

[217 answers, 31 missing -- 13%]

"Yes" answers [178= 82%]

a. General "Yes" answers [18=9%]

- Yes. [|||||||||||||] (13)
- Yes, very much.
- Yes, it got me slightly involved.
- Sure.
- Yes it did.
- Yes. I achieved my goals.

b. Yes, but . . . [10=5%]

- Yes, just a little.
- It did in some ways.
- Yes, if both question and answers are well articulated.
- Somewhat. If it was a question that I could fully relate to.
- Sort of. I suppose if I had talked more, I would have felt more involved.
- I guess so.
- Yes it did, but sometimes I felt bored because I had already learned how to do some of the lessons in high school.
- Somewhat.
- I only did it once. But it was OK.
- A little. By posing questions, I felt I might be asking what someone else had wanted to ask but did not. I thought they were appropriate to the class, but by the return answers I guess they were not.

c. My input was important [27=13%]

My input was used (4)

- Yes because my input was used.
- I felt that my response counted and hopefully it helped other people.
- Yes, I felt my questions were being answered and we discussed some of the questions and answers so I had a chance to give my input so I felt a part of this class.
- Yes it made me feel involved because sometimes my questions were used and answered.

My input was valued (7)

- Yes. I felt that my opinions were valued.
- Yes. It made me feel that my efforts were acknowledged and my participation appreciated.
- Yes, because I felt that my questions and opinions were important.
- Yes. It always helps when you're asked to give your input.
- Yes. It's always good to know your opinions are important.
- Yes, I felt like I was important.
- Yes. It made my questions important enough to answer.

My needs were addressed (5)

- Made the class feel more personal to my needs.
- Yes. I think it helped me feel that each person's learning styles and needs were important.
- Yes. I think it helped to show the instructor which ways we, as a class, felt the most capable of learning something.
- Yes. After the feedback, instructor used the different techniques after reading how students respond on a certain method of learning.

- Yes, It gave me a chance to vote on the learning methods which are more helpful to me.

My input influenced the structure of the class (11)

- Yes, to be able to make a change is the utmost involvement in the class.
- Yes. It seemed to make an improvement in the format of the tests.
- Yes. It almost felt odd being able to offer my input to the class. By suggesting alternative and suggestions from the student's point of view helped.
- Yes. Our statements were taken under consideration and used when possible. I think this was a positive.
- The feedback allowed us, as a group, to decide to allocate a specific portion of the class time to [a particular activity].
- Yes, because I felt as though what I wanted in class was taken seriously and was actually heard by someone.
- Yes. I felt I had a say in what went on.
- Yes -- we were able to adjust curriculum needs or class schedule to students needs.
- Yes. I felt like I had some say in what needed more explanation and in what occurred in the classroom.
- Yes, because I actually felt what I was putting on paper was actually helping me learn by being put to good use.
- Yes. Talked a little more about things that were listed on feedback cards.

d. Teacher valued student input [13=6%]

- Yes. It proved that the teachers are concerned and it makes the students feel involved. The classes are more active that way, and not boring like the ones I had before.
- Yes, it made me feel that the teacher was taking into consideration what situations I felt like I learned best.
- Yes. Teacher taking the effort of knowing how much we learned.
- The teacher always acknowledged questions asked. Some classes I have attended I've had my hand up for a length of time and did not get acknowledged. By getting the questions answered directly I felt very comfortable asking.
- Yes, because [the teacher] always explained something to the class and then asked if anyone had anything to add to it or had questions. [He/she] always let us talk or express our feelings.
- I feel we have been involved in the class from day one. We had a very good instructor.
- Yes, the teacher then knew what the class needed or wanted to know.
- Yes, because the teacher called on an array of students.
- Yes [the teacher] had very good teaching techniques.
- Yes, the questions the teacher would ask us let the students get involved.
- Yes. We had group discussions and [the teacher] encouraged participation.
- Yes, because the professor asked how we felt and what we needed help on.
- Yes. [The teacher] seemed to be more concerned and worked harder with us on the subject.

e. Provided opportunity for contributing opinions. [8=4%]

- Yes. It gave me a chance to speak my opinion in the given subject and it also made me listen to various other opinions as well.
- The anonymous feedback helped me to feel involved with the class because it was asking your personal opinion.
- Yes, it felt like I had my two cents worth put in.
- Yes. Because I felt several questions needed to be asked or discussed, and by bringing them to the attention of the instructor a level of understanding could be reached.
- Yes, because everyone has a chance to express their opinions.

- Yes, because I could convey exactly what I wanted.
- Yes, because it was our decision on our opinion of [the work being critiqued].
- Yes. I had the chance to discuss my point of view and ask questions and come to understand more clearly.

f. Provided opportunity for asking questions and greater participation. [8=4%]

- Yes, it provided more information on [this topic] and it encouraged you to participate in class.
- It gave me an easy alternative if I had a question.
- Yes, it made me feel as if my uncertainties would be answered. Many students never ask questions. So by doing this, some of the questions may get answered.
- Yes. It provides an incentive to raise questions relating to what you have learned.
- Yes, it answered questions regarding this class.
- Yes. Everybody got to participate and ask questions on any doubts they might have had, therefore, everybody took part.
- It did make me feel that I was involved in the class and I was feeling very comfortable in the class.
- I felt I was part of the class.

g. Provided opportunity to ask questions without embarrassment. [14=7%]

- Yes it did help me feel involved because I always felt comfortable asking questions and did not have to share my problems with certain things.
- Yes. Made it easier to express real feelings without being embarrassed.
- Yes, I felt very comfortable in this class. I am an introverted person and have a hard time talking out loud, but [the teacher] made me feel confident with [his/her] comments and personality.
- Yes it did. At the beginning of class I was kind of withdrawn from it, but I was able to get involved through this.
- For someone who doesn't like to be the center of attention, this was a good way for them to loosen up without having to actually "spotlight" themselves.
- Yes. Sometimes I might feel it's a silly question that I may end up not asking in front of the class.
- Yes, because it allowed me to ask questions no matter how basic it is for other people.
- Yes. We can suggest to emphasize certain topics by this that we feel more interested without getting embarrassed.
- Maybe. At least if I didn't understand I didn't have to let the entire class know I didn't, but instead it was done anonymously, so I wouldn't be embarrassed.
- I still feel very uncomfortable talking to others about topics, but it did give me a feeling of participation.
- Yes, because you understood everything in class -- you didn't have to hide a stupid question, thinking everybody else knew it.
- Yes, because then I wasn't afraid to ask questions.
- Yes. I hate speaking in class, so anonymous feedback is good for me.
- Yes it did. It gave the shy students an opportunity to have their questions answered.

h. Felt good that problems were the same as others in class. [14=7%]

- Yes. Still points out that my weakness was usually the same as the rest of the class.
- Yes, the feedback helped me feel involved because I knew that I was not the only one feeling anxious about [a specific topic].
- Yes, it made me realize I wasn't the only one that had questions.
- Yes, you feel better when someone had the same question. Because you know you are not alone, or way behind on the subject.

- Yes, because sometimes you feel you are the only one that does not know a particular problem.
- Yes. Most of the time my anonymous comments were mentioned as feedback, so I knew other people were in the same boat.
- Yes. I saw how I compared to my classmates. It showed me that we all learn in different ways.
- To some degree, yes. Teacher let the student express his or her problem. As a whole found out what the class lack in.
- It did help because it made you see that others were having the same questions you had. It was interesting to see where people were getting lost. You didn't feel alone in any given situation.
- Yes. After a few of the questions asked by students were read, it helped me realize that we were similar and made you feel as if you can fit in.
- I would prefer to say that the anonymous feedback helped me by showing me I was not alone with the areas I needed help with. So if this constitutes feeling involved, yes, I felt involved.
- Yes. It was interesting to note that other people were having the same difficulties with the same portions of the course.
- Some. Interesting to know who else had problems with the same material. I guess it was better than not asking us.
- Yes. Because I was able to hear the other students questions and I would be able to gauge my position in the class with the other students.

i. Made me think about the subject and become more interested/involved in the subject. [10=5%]

- Yes, it made me think about what is going on in class.
- Definitely. I felt like I was the one teaching -- demonstrating in this way, I'm learning and applying the new learned material.
- Yes, because I usually think of questions after the subject has been changed and this made me feel as if this was done just for me.
- Yes. I felt involved in the class due to anonymous feedback because it caught my attention and kept me concentrating on the topics discussed.
- Yes, the anonymous feedback helped me to learn so much because the way I learned a lot was listening.
- Yes. It helped me to focus on my goals and what I needed to learn from the class.
- Yes. Because if I did not get the chance to have anonymous feedback I would not have been as interested as I later became in the class.
- Of course it did. With the anonymous feedback I got more involved in my [work].
- Yes, it made it more interesting.
- Yes, because it helped me understand why this class was so interesting and unique.

j. Caused greater learning and greater understanding. [7=3%]

- Yes, it works good. You could learn with that and understand easier.
- Yes, because then I understood what I didn't know or understand.
- I feel relaxed when I have some feedback to help me, because they are the [] that are useful for me to understand the most.
- Somewhat. Say, if we used examples on the screen, it helped me figure out what I had done wrong.
- Yes -- we all took the same quiz and then were told the outcome.
- Yes. Cause my job is [related to this class]. I'm still a rookie and willing to learn what it takes to do an excellent job.

- Yes. It did because it helped me put my problems in order and get to tell the teacher about them.

k. Provided opportunity to learn from others in class. [13=6%]

- It was interesting to find out what others thought and it made me think of things I may never have thought of because I wouldn't have come up with so many different ideas on my own.
- Yes -- I found that when all of our feedbacks were tallied, we were all similar or there were some things I'd forgotten to put down.
- Yes, once again because suggestions were reviewed.
- Yes. Just by other people asking questions about things I myself was unsure of got me more interested.
- Yes, I felt that I could learn from the other students.
- Yes, it did make me feel involved in class. The reason why I felt this way is that some other classmate might learn or reinforce from my question.
- Yes. A lot of my own personal questions were answered, plus I was able to hear others problems.
- Yes. Very much so. Because it took input from everyone, not just me.
- Yes, because when your questions are answered you are helping yourself as well as the class.
- Yes, example was the classroom critiques we had in class. Getting basic ideas and advice from other students in class brought the whole class closer together.
- Yes. The critiques that I gave to the other students made me feel I was helping to be a part of their work.
- Yes. It was fun hearing how everyone felt about their results.
- Yes, by sharing others impressions of the class.

l. Involvement through group interaction [23=11%]

Contributed to a sense of belonging (7)

- Yes. It broke the ice in order to get everyone involved.
- Yes, I felt that I was part of a group, not individual learning session.
- Yes, I got to know people around me, by answering questions. I learned how others learn.
- Yes, because that way I knew my partners' names.
- Yes. How can a person hide?! No way! A feeling of "togetherness" resulted from our group critiques. Everyone seemed anxious to help and express praise at efforts expended.
- Yes, I feel this class became closer and understood one another well.
- Yes. The sense of belonging developed quickly. The group was cohesive for the most part. There was little peer pressure, but lots of peer help -- nice!

Group activities and projects in class (7)

- Yes, all the group activities made me feel more involved. Also, asking questions and answering in class helped all students to interact and feel more involved.
- Yes, feedback created involvement and especially role playing. I think that each person should do it.
- I felt very much part of the class, especially when we interacted with each other on a group project, i.e. to help us learn how to problem solve. Working with other classmates strengthened the answers or suggestions to better ourselves.
- Yes. I enjoyed giving presentations to a small group. A lot of verbal ideas and comments came from it.
- Yes. When we got into groups and did our activities and if we didn't understand the teacher would come over and help.

- Class projects and presentations with different classmates.
- Yes, we all got involved with groups and helped each other get the answers we needed.

Class discussions (9)

- Yes -- because I learn a lot more -- pretty much like the children -- with a conversation or [] -- something associated with the learning.
- Yes. The whole class would get involved in any questions that the other classmates would have.
- Class discussion and feedback helped in ways that offered other points of view.
- Yes, because you felt the teacher was talking about something you had questions about. Then a discussion would follow -- and others would talk about their problems [with the subject].
- Yes. Everyone would just brainstorm and get involved.
- Yes. We always had class discussions after the questions.
- This class had the most student involvement. I really liked getting involved.
- Yes -- it was group participation.
- Yes it did. Not only did the teacher lecture, but by the feedback the class became more relaxed and spontaneous.

m. Comments about involvement not directly related to anonymous feedback. [5=2%]

- I became involved essentially the moment I participated in partaking of all extracurricular activities in the survey status.
- Yes, I felt very involved with the class with the projects and field trips.
- Anonymous feedback about the work we did was discussed too much in a group setting. I think everyone wrote the same comments. We should have done evaluations without the group critique first.
- I think it did, because of the fact that the instructor will be explaining an item and we will be following with different kinds of handouts, etc., that way we won't feel lost in the lecture.
- Sort of. I think I and others would have gotten more involved with assignments other than just reading the book.

"No" Answers [39=18%]

a. General "No" answers [6=3%]

- No
- Not really.
- It was fun, but it didn't do much for me.
- Not really.
- Didn't really matter.
- Not especially.

b. Answers indicating some confusion about anonymous feedback [5=2%]

- N/A [II] (2)
- **I missed it.**
- Don't remember.
- I'm sorry, but I don't remember.

c. I didn't participate in anonymous feedback [2=1%]

- I didn't hand in any questions, so the anonymous feedback had no impact on my degree of involvement in the class.
- Not really. Usually couldn't think of information that I wanted to know and hadn't already asked or looked up on my own.

d. All input was not used. [6=3%]

- No, no one ready my question/comment aloud.
- Not especially, but I guess that is because any ideas that I presented to the class anonymously were always rejected. I am sure, however, others felt involved in the class because of the anonymous feedback system.
- I don't think it was really involvement, but it did make me feel better that they weren't read aloud, because I thought a lot of my questions stupid or irrelevant.
- No. We didn't read our papers in class.
- Yes and no. Each student had different difficulties. Sometimes it was hard for [the teacher] to touch base on all problems.
- At the time it did, but because nothing was really done about it, I didn't really.

e. Anonymous feedback is impersonal and does not promote involvement [6=3%]

- Sometimes you feel better if you're alone, but I don't think somebody could feel involved in the class on this way.
- No. Actually, probably just the opposite because of its impersonal approach.
- Not really, because I would just listen.
- If it is anonymous it would also be considered general. And anything that is in the "general" context cannot promote involvement.
- I don't see how it would make me feel involved.
- Actually, the feedback did not need to be anonymous -- I would have written the same data with my name on the paper.

f. Prefer asking questions aloud. [8=4%]

- No, just the opposite. My questions and other students questions and the instructor's response made me feel more involved.
- No. Involvement to me is more active.
- No. I believe in person to person feedback.
- We had a lot of group activities that made us all get involved which I enjoyed, but I don't think the anonymous feedback helped get us involved.
- Not really because I feel more involved by participating in class discussions.
- No, I'm naturally gregarious.
- I guess so. But I have a big mouth, so it's hard to determine.
- No -- direct questions make me feel involved.

g. Felt involved anyway [4=2%]

- I was active in asking questions, so the feedback wasn't much help. I was involved already, so that didn't make me feel more involved.
- No. I felt involved in the class from day one. I feel it was because of the teacher, not the anonymous feedback.
- I don't think so. I always felt involved in the class.
- Not really. I think that [critiquing the work] is good, and to talk about it is good, but I don't think I felt any more involved.

h. Waste of class time [1=.5%]

- Actually felt it distracted from the class time available for the small amount of info the feedback provided.

4. **Which feedback technique did you like the best? Please describe the technique and explain why you liked it.** [190 responses . 49 missing]

a. Not Applicable [18=9%]

- N/A [IIIIIIIIIII] (11)
- N/A only had one technique [IIIIIII] (7)

b. Some confusion about the question [4=2%]

- Do not really remember any of the techniques.
- I don't recall specifics.
- Feedback what?
- I missed it.

c. Liked feedback generally [8=4%]

- All, because it was very good.
- I liked them all the same.
- I don't have a favorite of the two. They were both beneficial to me.
- All similar.
- I liked the feedback I got in general.
- I think I liked them all about the same amount.
- All techniques were performed rather well, to say the least, and we all have found great pleasure in the generous concern of the educators and administration.
- The best were all of them -- liked them all!

d. Comments about teaching techniques not related directly to Classroom Assessment. [68=36%]

d1. Learning from Other Students [33=17%]

Class Discussions & Interaction (9)

- I like when the class had group involved discussions and interactions. I enjoy all the techniques and that they were anonymous.
- To be honest, the one we had throughout the semester -- constant participation with other students and the teacher. The class interaction. Great -- implement in all classes -- mostly in Psychology and History -- they need it.
- Interactive discussions and visual aids. I thought these helped me absorb the material better than other methods. Reading the text after discussion helped, too.
- Best learning method for me has always been class discussions concerning reading and/or assignments. Clears up ambiguity in the way I reach my answers.
- Verbal discussions during presentations.
- Class discussion, tests.
- The technique I liked the best was when everyone brainstormed in class.
- I like the verbal explanations as well as the class discussions.
- Allowing students to openly participate in lectures.

Small Group Discussions and Activities (9)

- Group discussion
- Group sessions -- it made me study and be prepared for the task which the group was going to discuss. Students helping each other gives a wide variety of answers which can help.
- I liked when we all got into groups and did the activities. I think I liked this technique best because I love to talk and had an opportunity to do tons of that!
- Group activity because like I said before it helped me feel more involved in the class.
- Group activity.

- The small group problem-solving technique helped in that other students understand the difficulties better and the small group can help each other to learn the subject.
- When we broke off into groups to go over the assignment. Then received group feedback on our results.
- I liked to work in groups because I liked to practice [what I've learned] with my partners.
- Case studies -- group discussions

Group Presentations (2)

- I liked when we got into our groups and gave our presentation to one another. This gave us the opportunity to see and hear it.
- Doing presentations -- gives you a chance to have a "hands-on" experience.

Individual Presentations (3)

- The individual presentations by classmates who are in [this business] because we get to see how it's really done by the ones who are in the business.
- It was very interesting to hear about the other students experiences. "Networking" is always a helpful tool in the learning/problem solving experience.
- Presentations by student speakers were good. They introduced their practical experiences in their specific fields.

Peer evaluations of student work (10)

- I like evaluating each other and doing our presentations.
- The feedback I liked best was reactions or comments of the class when we shared experiences. This teacher is very open about communicating and sharing experiences.
- The evaluation sheets.
- I liked the group feedback the best -- it motivated me more.
- I liked when we evaluated the other students. It helped by giving each other constructive criticism and how to improve on the presentation.
- The feedback from our peers and the feedback from the comments on our papers.
- Class critiques. Getting feedback from individuals is not done enough in the classroom situation.
- The classroom critiques -- getting ideas and advice from other students brought the class closer together.
- To ask a good thing and bad, both so the person didn't feel completely cut up.
- The one whereby little slips of paper were collected (with specific suggestions/comments) and attached to the work presented. Unfortunately, I missed having my work critiqued -- I was still in that catching-up mode.

d2. Instructor critiques [4=2%]

One-on-one feedback from instructor (2)

- The private teacher-to-student feedback helped best. It was where I got my most detailed help. The critique was also helpful.
- I liked the one-on-one feedback by the instructor. This was given with each project, and enabled me to feel confident I was working in the right direction.

Oral critiques in class (2)

- The oral critique.
- When the instructor made comments, I []. Seeing from other people's [work] was very instructional.

d3. Application of Knowledge [5=2%]

Lab Class (3)

- The lab during meetings was helpful.
- Lab work.

- The best in technique is the lab, I like and interesting about all the lab I did, but I also know that sometimes I didn't done perfect.

Assignments (2)

- The class project. It let us apply [what we'd learned] in a way which we could learn it best.
- I feel that we learn by doing. The best way to learn [this topic] is by [using what we'd learned in assignments]. The homework assignments covering most topics I felt I got the most from.

d4. In-class Review of material [19=10%]

Review of material (2)

- I liked class participation and putting things on the board or the screenings the best because you could see what was happening. Repeating things always helps me.
- We only really did review, and I like that the best -- constant review.

In-class oral question and answer sessions. (10)

- Besides the anonymous feedback, I also liked the one to one question and answer portion between teacher and student. There are times when some questions arise from nowhere by conversation which is pertained to the subject matter.
- I'm outgoing -- I just outright ask the question. He who hesitates is lost.
- Direct answers to questions.
- Questions and answers when the subject changed a lot -- almost like a debate.
- Direct Q & A.
- I prefer the verbal asking and discussing of questions in class -- taking notes and studying on my own.
- Answer and questions. That's the best way to learn, because you can take away [] about the class.
- Classroom questions and answers.
- Lecture and questions other students asked that I had not thought of.
- Questions and answers. Because it gave me the chance to hear different points of view from different students.

Teacher explanations (4)

- The teacher speaks clearly, loudly, and good explanation.
- The way the teacher explains everything. [He/she] was very nice.
- When I ask any question and the teacher explains the problem on the board. This way, everybody got involved with the problem.
- The one in class involve. This is easier for me to learn when I can hear people explain and tell why things are done.

Feedback after tests (3)

- Going over the corrected test is what I like best, because that's when I have what I thought I knew in black and white, and I can hear what I should have known when I was taking the test.
- The tests were structured in such a way that they pointed out what I did not understand and had to work on.
- Grading tests and quizzes in class.

d5. Other Teaching & Learning Activities [11=6%]

Variety of techniques (2)

- Mix of classroom and individual feedback is best. This class had both.
- Homework assignments, lab, books, and lecture -- the most is the book. The more clear and good the book is, the better result I can get.

Visual Aids (3)

- I liked [a videotaped program] because was very interested was vocabulary exercises -- everything I liked it.
- handouts
- Visual learning, by seeing something I can learn easier than by just being told about it.

Skills Center (2)

- I got many things from the Skills Center.
- I liked the Skills Center with the computer program.

Learning specific topics and skills (3)

- Learning how to [do specific techniques]. I liked it because it added [to my work].
- [Specific procedures related to this area of work.] How to organized the workplace. To be aware of what's out there and to look out for.
- How the [specific topic] worked.

Other comments (1)

- Field trips to be closer -- like in the same county. I didn't get to go on the first one because it was so far.

e. One-Minute Paper [65=34%] [NOTE: This was the most commonly used technique in the classes.]

e1. Index cards and anonymous feedback in general [21=11%]

- Cards. Helps students who are shy -- don't have to raise their hands to ask a question. Some students feel stupid raising hands even though teachers encourage it.
- The cards -- they were brief and to the point.
- Writing on cards -- not giving name.
- I like two types of feedback. First one was getting into small groups to work on stuff. Second was the anonymous feedback.
- 3x5 cards, because I could convey exactly what I wanted.
- The cards worked well. The instructor took advice from them.
- The anonymous card responses were a good way to offer feedback.
- 3x5 cards.
- Filling out cards on problem areas encourages more discussion on these areas, inviting responses.
- I prefer the anonymous feedback, because this gives both the teacher and student the chance to look at the matter objectively and quietly without confrontation.
- Fill out a piece of paper and give it back to the instructor after every test.
- The index cards.
- The anonymous feedback because it helped when we [made a list] on the back of an index card -- it helped answer any little doubts I had.
- The index cards, because they are easy to write on.
- I liked the anonymous feedback because it was a more one-on-one type situation.
- We only had two, but the one to the instructor was the best.
- I enjoyed the index cards the best. It was a quick and easy procedure, not only for the questions, but also the answers.
- Flashcards. [The teacher] would give us 3x5 cards to fill our our question and then go over the question and answer the next class.
- We only did cards where we wrote down questions on topics for which we wanted to learn more. The teacher didn't take these to heart, though.
- Writing out our questions on the cards and having them answered.
- The anonymous I think is best because everyone can have their questions answered.

e2. Asking questions on cards [12=6%]

- I liked listing the questions I would like to ask.
- Asking questions or giving comments on 3x5 cards. I like these because I received answers to my questions.
- Basically whenever [the teacher] asked us what our feelings were and if we had questions.
- The asking questions the best, because individual students would ask their personal experience to teacher which brought up my thoughts more.
- I liked the one we did about any question about [a specific topic] because some people had more guts than me to ask a question and get an answer.
- The one that asked if we had any questions. I liked it because it did not limit me to one subject. It gave me a choice.
- Write out question (anything) about certain subject on a 3x5 card and discuss in class.
- When asked to write down a test question that I thought was important. I felt more involved in thinking than dreading what would be on the test.
- Questions on cards.
- The last technique asking about [a specific topic] -- that again went over any remaining questions that I had.
- I like the one about [a specific topic]. Each one of us had a question on [this topic] that we lost memory of.
- I liked expressing my questions.

e3. Clear/Unclear [10=5%]

- Clear or unclear. Question about understanding of materials.
- Topics still unclear, three weeks before the end of the semester. I liked this one because it served as a review of our work.
- When [the teacher] asked if any topics were still unclear three weeks before the end of the semester, because it gave [him/her] time to go over the material several times.
- It was later in the semester when the teacher had the students write down their unclear questions about [specific topics] All of the anonymous feedback helped.
- I like when we had to write what questions on [a specific topic] we still are not sure about. Because I could then anonymously say what I was unsure about.
- Topics still unclear three weeks before the end of the semester, because you could discuss the ideas you were unsure on and have your questions answered.
- I liked the unclear topic technique because it was time for me to smooth out the edges.
- I liked the feedback technique of when [the teacher] asked us what topics were still unclear (three weeks before the end). These not only helped me understand about the questions I asked, but also answered the questions I forgot to ask.
- The feedback technique I liked the best was the clear/unclear items I listed in the first week of school. It let the teacher know what I needed to work on and enable [him/her] to help me with them.
- The clear and unclear items helped answer questions everyone had.

e4. Difficult/Easy [4=2%]

- When asked to write what was difficult or easy about different things we were learning. I liked it because we spent more time on things that were generally difficult.
- Listing difficult topics helped the most because the response from other students and teacher cleared up misunderstandings. This was accompanied by discussion of handouts.
- The comparison of "most difficult" and "easiest" aspects of the course.
- When [the teacher] asked us what areas were easy and which were hard.

e5. Most important thing(s) learned [3=2%]
- Pick out things I felt were important. I chose topics that stuck in my mind as important. This helped reinforce them in my memory.
- The card asking for five things I learned. It made me search my memory and actually recall what had been discussed in class. With a three-hour/1-day class, sometimes it's hard to remember what you did the week before, even after looking at your notes.
- I liked the recalls of the gray book and feedback and students explain what they learn.

e6. Questions about the class structure [2=1%]
- The questions about how you could make the class better.
- I liked the one asking what I would like to see more or less of in the classroom.

e7. Getting feedback from the cards. [13=7%]
- I liked feedback from the class as a group because you get an idea of what other people think and do when they write.
- I like the one when [the teacher] put numbers of how many asked what, and what percentage that was, and put the outcome on the overhead for us to see clearly.
- Question and answers with detailed explanations and real-life examples.
- Question and answer the questions. I liked it because it helped me directly -- answered my questions whenever I have the question.
- Probably hearing what others concerns were regarding the class.
- Writing it down on paper and letting the teacher go over most common issues in class.
- I like the technique of giving your opinion anonymously [about other students work]. It made me see where I compared [in this assignment] among the other students.
- The one I like the best is the one where the classes answers were put onto the transparency.
- I liked the review feedback at the end of the semester. It gave me a chance to get help on my weak points for the final.
- Answering the surveys and getting the final results.
- I liked it when [the teacher] would ask us a question or two, then come back the next class with examples of problems.
- I liked the parts of feedback the best, because it was something that I wanted to learn. Thanks to the specific details, I know know what [a specific term means].
- It was helpful to hear students comments as well as the instructors regarding [our classwork].

f. Invented Dialog [3=2%]
- When we developed our own dialog.
- I liked taking two fictional people and have real problems happen to them and watch two student volunteers act out the solutions.
- Role-playing.

g. Goal-Ranking [10=5%]
- Is where [the teacher] ask all us to examine ourselves and listed them on paper.
- When you asked why we were coming to school -- what are our goals.
- Looking toward future goals and accomplishing them.
- I liked the technique that was used when we were asked what our goals were.
- The goal-setting.
- The surveys where you expressed your goals and what you wanted to achieve.
- Goal setting.
- The goal setting. It was very helpful.
- Goal setting. I set goals for myself which I didn't have before.

- The technique was writing about our reasons for taking the class and what we expected to get out of it.

h. Background Probes [3=2%]
Learning Styles Inventory (2)

- The survey regarding the various ways of learning -- i.e. visual, oral, reading, etc.
- The one that helped me figure out which way I learned best -- Visual, etc.

Student Background Survey (1)

- The survey at the beginning of the semester helped the teacher pinpoint problems. Then, [the teacher's] follow-up toward the end of the semester.

i. One-Sentence Summary [4=2%]

- One-sentence summary is the technique I liked best because it was new to me.
- I liked the one-sentence summary the best. I'm not sure why. Maybe because I had to think really hard to get everything into one sentence.
- I enjoyed writing the one-sentence summary. This is probably due to the fact that I enjoyed the [reading material] quite a bit.
- I liked the one-sentence summary. It helped me think and see what I really understood from my reading.

j. Focused Listing [1=.5%] [NOTE: See also "One Minute Paper" e5. "Most Important Things Learned]

- Listing [one specific topic], because I wasn't sure about how to use these properly.

k. Process Self-Analysis [1=.5%]

- The technique I liked the best was when the class had to monitor the time spent on each stage of [completing an assignment]. This helped by showing me which areas I spent the most time on, i.e. where I needed the most work.

l. Other Comments about Classroom Assessment [1=.5%]

- This was only performed once in our class, and it didn't really do a whole lot because it was done about 6-8 weeks into the semester. So you had to think about what was unclear.

5. **Which feedback technique did you like the least? Please describe the technique and explain why you did not like it.** [149 responses, 90 missing]

a. Not Applicable [24=16%]

- N/A [IIIIIIIIIIIIIIIIIIII] (20)
- N/A only had one technique [IIII] (4)

b. Some confusion about the question. [6=4%]

- No idea
- I don't recall specifics.
- Feedback when?
- Unsure.
- I missed it.
- I can't remember.

c. Liked all feedback techniques ("None" were "least favorite") [43=29%]

- None [IIIIIIIII] (9)
- None -- I liked them all.
- I don't have a favorite of the two. They were both beneficial to me.
- I can not think of any I did not like.
- Can't think of one.
- I don't remember any that I did not like.
- I loved the entire class -- No complaints at all.
- I really enjoyed this whole class and had no problems with them.
- Liked them all. I think they all worked very effectively.
- I have no idea. Any feedback technique would help for the classroom.
- I've had no particular feedback technique dislikes from this class.
- Well, all feedbacks are fine, because for sure somebody will learn something from it.
- They all seemed inviting to me.
- Since few options were available I can't say that any were I liked least.
- They were all good techniques. The variety was what helped.
- I don't have any.
- I don't think there's any I didn't like.
- Nothing. Everything was good.
- I liked all techniques because I have learned from all of them.
- I really don't think there was one.
- I can not think of any.
- I think any feedback that is helpful for me.
- None, all of the techniques seem to be very effective.
- I didn't really dislike any technique.
- None. I liked them both -- just one a little better.
- All techniques are very good. I really enjoyed the class and got a lot out of it.
- I didn't have any problem on any of the techniques.
- None, really -- if they all are to help you learn I'm all for it.
- I really didn't dislike any of the techniques.
- There wasn't one I liked the least.
- What is least? What is best? It all boils down to the fact that we all indulged in a little participation that was provided, and performed rather well.
- None that I liked the least.
- None. I found them all useful.
- They seem to be the same to me.
- Personally, I didn't dislike any technique.

d. Comments about teaching techniques not related directly to Classroom Assessment. [28=19%]

d1. Learning from Other Students [12=8%]

Class Discussions & Interaction (1)

- Not enough students got involved -- maybe because they really weren't sure about what the class was really about.

Small Group Discussions and Activities (3)

- Talking in small groups. I get more out of responses from the class that comes voluntarily. In small groups people feel put on the spot.
- Verbal learning (in groups). I do not prefer to be grouped in class to learn. I would rather the teacher lecture.
- I didn't like the group technique. It helped, but mostly it was goofing around.

Peer Evaluations of Student Work (8)

- The least liked technique was the way the students individual evaluations were presented. Maybe they would be more informative had they been questions like these.
- I think that evaluating each other is a good idea except for the fact that when you know everyone in the group and you feel that you should give someone less than a 10, it causes an uncomfortable feeling, and they don't get as honest an evaluation because everyone is just giving 10's.
- I don't really know. Maybe when the other students ready my papers and put their comments on them.
- The method of expressing a negative about someone else's work. I felt a person might be "discouraged" if criticized. Perhaps I was wrong; many people seemed comfortable with remarks -- even "encouraged."
- The group critique [of student work].
- The written critique.
- I had to make suggestions to others even when I really did not have much to say.
- The one least appealing to me had to have been judging strong and weak points of our own projects, not the say to is helpful, but I felt it was the most unappealing part.

d2. Instructor critiques [2=1%]

One-on-one feedback from instructor

- One-on-one critiques (with the teacher) because there was not enough of it. My personal frustration with myself need more individual attention to deal with fear.
- One-on-one with the instructor is the worst. Sometimes the instructor just wants to talk and talk and talk.

d3. Application of Knowledge [2=1%]

Lab Class

- Demonstrations in lab

Assignments

- Homework.

d4. In-class Review of material [1=.5%]

Teacher explanations

- Explaining things real fast without putting them on the board. They were much harder for me to follow.

d5. Other Teaching & Learning Activities [11=7%]

Variety of techniques (1)

- Class was real balanced -- video, lecture, class participation.

Visual Aids (1)

- The filmstrips would have been easier to understand if the sound was not directed toward the wall instead of the class.

Learning specific topics and skills (1)

- [Using one particular technique]. Although I know it helps to [use this technique], I guess I'm just stubborn.

Other comments (8)

- Embedded expressions in the code on tests. This is only because I go cross-eyed and can't count any deeper than three relationships.
- Home phone number I didn't use. I work mostly at night, after class, so hours make it inappropriate.
- Having to return the assignments within specific deadlines during the semester instead of returning it at the end of the semester.
- Essay questions like this one.
- The worksheets. Unlike I stated above, the worksheets were ABCD answers and really couldn't give the teachers a solid look at what the students were or weren't grasping.
- The tv sheets.
- Lecture.
- The textbook.

e. One-Minute Paper [25=17%]

e1. Index cards and anonymous feedback in general. [9=6%]

- Writing on the back of the cards.
- The three by five card surveys.
- I felt no need for the anonymous feedback.
- Anonymous feedback. I had no questions to ask since I asked my questions in front of class during lectures.
- Answer to survey. I want my opinions and problems addressed individually, do within open class -- not ignored because I was not majority. I had to go back to individual discussion to address my needs.
- Individually asked by teacher for feedback in class. Usually there is not enough time to think before you put down your comment/suggestion.
- Taking the time to gather and sort all the students written comments when they basically represented what was discussed out loud in class.
- Index cards -- generally questions come up one at a time, not in a batch.
- On the "spur of the moment" passing out cards to write information. To me that was not involvement.

e2. Asking questions on cards. [2=1%]

- The one I liked least was the one about [a specific topic]. I did not prefer it because I had to ask a question about it when my mind was on other things. That was hard.
- I don't know if I actually liked it least, but concerns about [one particular topic] -- I just couldn't think of any particular concerns at that time.

e3. Clear/Unclear [2=1%]

- Cards on clear or unclear.
- If I had to choose the one I liked the least it would be including the items "clear" and "unclear" the first week of class. The reason for this is because everything is too new to really know what is clear and what is not.

e4. Difficult/Easy [3=2%]
- The first assignment of best and worst topics. Writing it down was easy, although creating a paragraph from it was very difficult to do.
- The list of difficult and easy class topics.
- List of difficult and easy class topics taken from the survey on the first night of class -- because I really didn't know what [the teacher] was talking about.

e5. Most important thing(s) learned [3=2%]
- The one where you list five things you remember from the lecture. I learned a lot from [the teacher] and I proved it on my test scores. I shouldn't have to be quizzed anonymously, too.
- Trying to write down what I remembered from the chapter when I still hadn't read it. But that was my fault.
- I did not like listing the five things I liked about the class, etc. Not enough time to discuss them properly.

e6. Questions about the class structure [1=.5%]
- Soap deal. I didn't think it mattered whether or not we have Ivory Soap or some industrial strength ones.

e7. Getting feedback from the cards [3=2%]
- I liked all of our techniques, but the one I would least like probably would be the teacher repeating it off of a card only [he/she] can see and brief answers.
- Teacher feedback.
- Selfishly, when time was spent on areas of little interest to me, but of importance to others. Practically speaking, I have no complaints as the methods are very similar to undergraduate education at a private college which I found stimulating.

f. Invented Dialog [none]

g. Goal Ranking [none]

h. Background Probes [6=4%]
Learning Styles Inventory (4)
- The beginning of the semester required a questionnaire on what we would do. Basically if we studied better as a group or hands on, etc.
- To me, the how do you learn best was not that helpful because how I learn depends on the type of information and how it is presented. For example, in this class the teacher was easily accessible so group learning was not needed.
- Filling out the questionnaire on which learning style you fall into could produce misleading results -- it depends on what you're trying to learn.
- The grouping us on different ways of learning. Some people have many ways of learning.

Student Background Survey (2)
- Actually, the student survey worked the least for me.
- I wasn't particularly interested in the feedback following our first class meeting. The survey results were about who had what major, and how many years of college, etc.

i. One-Sentence Summary [10=7%]
- I did not like having to write [the one-sentence summary] because I felt I could not fully explain the whole question.

- Least I liked the one-sentence summary. I found it difficult to summarize [the material] in one sentence.
- I didn't like the one sentence summary. Because I can't narrow what I want to say down to one sentence.
- The one-sentence summary. I'm not too good at reading other people's thoughts.
- I didn't really understand the one-sentence summary.
- The technique *I did* not really like was the one-sentence summary. I did not quite understand Who? What? Where? When? It was mind-boggling. I did not think it was specific enough. It just confused me on what the teacher was really asking.
- Probably the one-sentence summary -- because I felt the question to be confusing, even though I read the material twice before the question was asked.
- One-sentence summary. I felt it was not enough to completely express myself.
- I didn't like the one-sentence summary because there isn't enough room to describe [the reading material] without making it a run-on sentence.
- The sentence we had to write, explaining [the reading material] -- one sentence only.

j. Focused Listing [none]

k. Process Self-Analysis [5=3%]

- Written analysis of time spent on stages [of a class assignment]. Did not like this one because I knew I was slow, and now I know exactly how slow I really am.
- The written analysis of time spent on papers was not contributive enough, except as a practice technique.
- The writing analysis of time spent on stages of [an assignment]. For one thing, the time spent is always different because I spend different times on different assignments. Also, because I didn't understand if there was a set time or not.
- The written analysis of time spent on an assignment -- what purpose did it serve?
- I didn't care for writing analysis of time spent [completing an assignment] because I felt it useless. I didn't learn anything from it. When I write, I like to write freely, not having to keep time on everything that is written. I felt it was a waste of time.

l. Other Comments about Classroom Assessment [2=1%]

- I don't think any of the techniques has helped me in outrageous way, so I think it was sort of waste of time.
- When you had to put your name on what you got out of the lecture.

6. **Other Comments: Please feel free to use the back of this paper to add any additional comments about your experiences with Classroom Research techniques in this class.** 45 comments out of 239 surveys = 19%]

a. Comments about Classroom Research [8=18%]

Positive comments (5=11%)

- I enjoyed them.
- I appreciate the opportunity to offer my feedback.
- Writing down problems was essential to learning. I appreciated the instructor copying info on particular questions I asked.
- I thought they brought the class closer together and answered a lot of unasked questions for me.
- I feel that asking the students their needs and their questions are the best ways a teacher can learn from us.

Negative comments (1=2%)

- Is the point of this to learn better in school, or to feel better about school? With the first, the second will come, but not vice versa. If anything, I would want more information, presented clearly of course, and easier ways to get answers to my questions, because teachers are not good choices for sources of information. Several reasons are: they don't have enough time to answer everyone with good answers. They are wrong too often, especially when dealing with areas they don't teach. Also, just the fact that they will grade your work puts a mental block from disagreeing with them. (Questioning their answers.)

Other observations (2=4%)

- Should have told us since the beginning!
- The way [this instructor] teaches doesn't really need the techniques used in the research project. The project was good, but the way class was "discussed" rather than taught made it easier and more enjoyable to learn.

b. Comments about instructors: [19=42%]

Positive (17=38%)

- I don't want [teacher] to go [to another college]. I will miss [him/her] a lot!
- You're a very nice teacher. I hope I could find another one like you. Thank you.
- [Teacher] is a great teacher.
- [Teacher] is a great teacher and counselor.
- I am really glad that I had you as a teacher because I have learned so much!
- Good job.
- I think [this teacher] deserves a medal of perfection. With [his/her] guidance, I would now consider myself [pretty good in this skill].
- This is one of the first classes I have taken at Fullerton where I have totally enjoyed the teacher. [This teacher] has a very sweet spirit and easy teaching manner, but this isn't to say that the work is always easy. [He/she] makes you think about what you are doing and really helps out if you have questions or needs. I would take another class like this anytime.
- Instructor is very helpful with students. [He/she] tries very hard to encourage students so we can get good grades on exams.
- Very good class and teacher.
- This class was a marvelous experience. [This instructor] is an excellent teacher.
- I feel that the teacher makes all the difference in a class. I liked the way [this teacher] taught because [he/she] used all of the class time to teach us. Not just review from the book. I have had too many classes that all they do is review the text. We are at a college

level, and I think we need to be more independent and be held responsible for the reading, and have class time for questions or other exercises.

- Very good class and an expert teacher.
- This was a well-taught, well-paced class.
- By having open notes and open book, I felt I did better on my tests. I learned more doing this than having closed notes. I enjoyed this class a lot. It was great to find a teacher who cares about [his/her] students and not about [his/her] tenure. I hope the rest of my college classes are this enjoyable! Thanks!
- We had a lot of participation from everyone in the class, and [the instructor] spoke to us, not at us. [He/she] made "me" feel as though what I said was important even if it was off-base. I felt like I belonged and had a say so. I learned a lot from the others as well.
- The instructor was thorough and complete with [his/her] teaching methods. [He/she] would ask simple questions, providing space with time for the students to think through the question thoroughly, and to say their answers. The instructor would incorporate into [his/her] answers the student response to show that the students were correct and using their own heads. Always, an answer that was correct was followed by a "good" or "right." School is to broaden your mind, not to force a set answer as being correct to all people in all situations. Critical thinking along with exams for reinforcement is in my opinion the best way to educate students.

Suggestions (2=4%)

- I think you should field more questions from the students!
- The instructor should bring [his/her] own supplies to class.

c. Comments about the class [18=40%]

Positive [6=13%]

- I've taken [another class in this subject] and at the end of it I felt that so much technology and terminology should be handled in a more simple way. That's why I liked this class better because of the way it is carried and the simplicity of the facts. I've learned a lot more and understand better what was going on at that other class.
- The video [on a specific topic] was exceptional! Maybe add one or two more videos as they pertain to certain chapters. They are effective.
- Class was well put together, for my point of view. Wish I could be there more often, cause the time I was I enjoyed.
- This was the funnest class I had this semester.
- I learned a lot about my self and [things I can apply to my everyday life]. I may take it again.
- I felt I was part of this group -- the participation, discussions, and interactions with other students helped me do better in the class and achieve a better grade. I wish it was like this all the time. I think classes like [some traditional academic subjects] should develop a more discussion type of teaching or learning technique. Help students learn as they learn to interact with other students and the teacher.

Negative comments and suggestions for improvement [7=16%]

- Sitting on stools in a [specific type of] classroom was not the greatest moment in my life.
- I think you should look into a different textbook.
- Please get a book in [this subject] which isn't so vague and written with emphasis in generalities. When you spend one day a week in a class you need a book and other literature which has substance.
- I didn't like the textbook at all -- except for the fact that it's in English.
- I have had two [previous classes in this subject]. Their books were very clear on [certain points]. This book was confusing and not clear. I think they should have more [classes in this subject] at an upper level at night. Fullerton makes it difficult for the working adult.

- I felt that the basis of being in a [class in this area] was to learn to express your own technique [in using this skill] -- showing the teacher how and what your style was. I feel that a certain [finished assignment] cannot be graded on the basis of how much the instructor liked or disliked it. It's your own style, and that's what makes you unique from everybody else.
- I feel that more handouts with practice exercises are required to help retain learned parts of [specific topics].

Other comments: mixture of positive and negative [5=11%]

- The [specific topic] book was a great help with [specific topic]. But it confused things like [specific terms].
- All classes should have a final review the week before finals.
- One way, I imagine would be a great way to improve one's [skills in a language] would be to speak to someone who only speaks [that language].
- I feel I learned a great deal in this class for the time we were here. But more individual techniques would have been nice. But I know you can only do so much in a short time.
- All techniques were beneficial. I believe the best mix is determined by many factors from class to class, i.e.: material, audience needs, teacher style, audience participation, etc. I believe in creating a win-win situation for a beneficial learning experience. Bad techniques include: reading from the book to the class on a regular basis; surprises on tests or quizzes; and lack of patience by the instructor. [NOTE: It is not clear whether this individual is referring to the characteristics of this class, or "bad techniques" in general.]

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